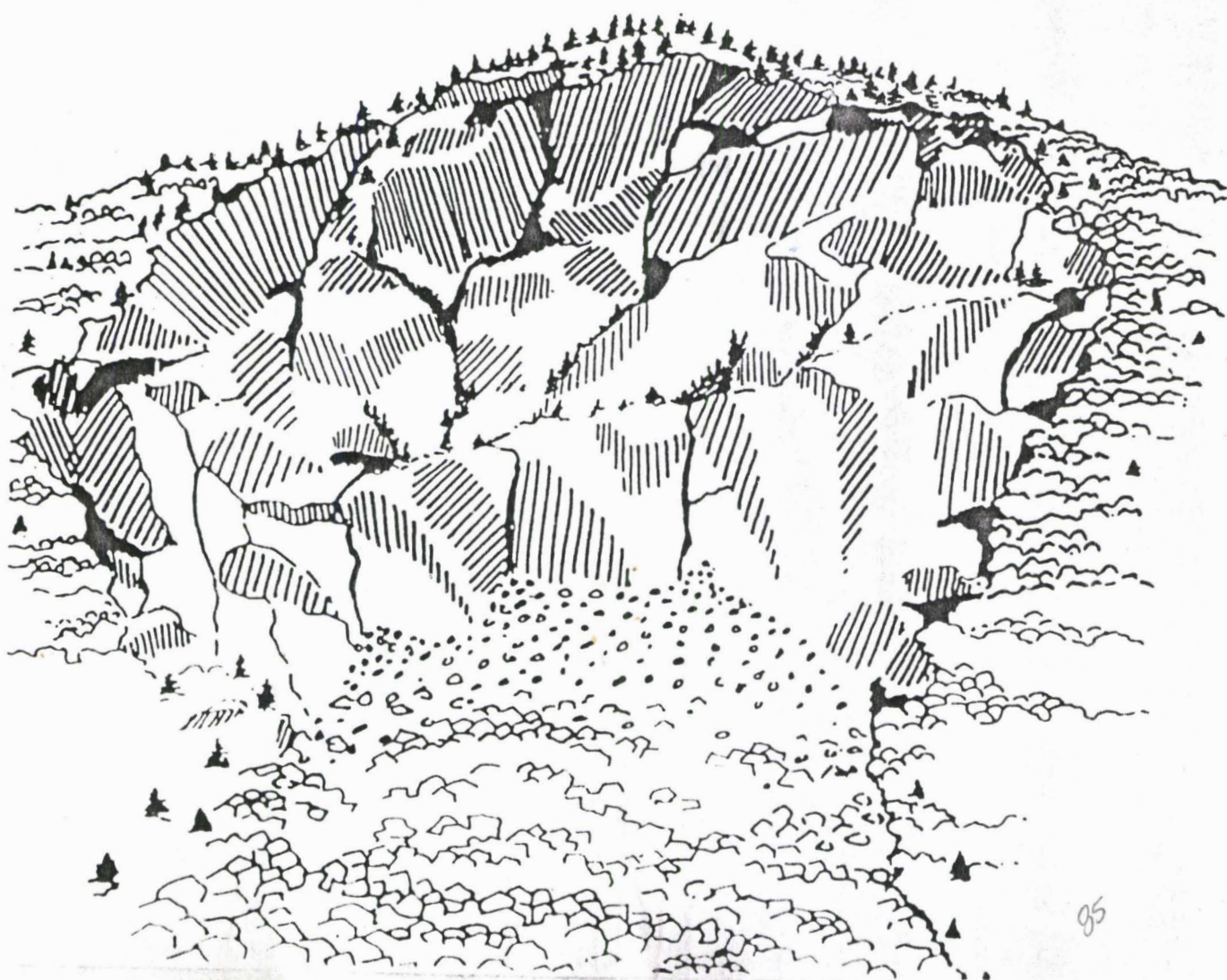


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PRAMUK

WHITE ROCKS
NATIONAL RECREATION AREA
EASTERN REGION
GREEN MOUNTAIN NATIONAL FOREST



WHITE ROCKS
NATIONAL RECREATION AREA

MANAGEMENT OBJECTIVES AND DIRECTION

December, 1985

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This paper was prepared as a student project in partial fulfillment of the requirements of the Professional Development for Outdoor Recreation Management program at Clemson University. It in no way reflects United States Department of Agriculture Forest Service policy nor are the opinions expressed those of anyone other than the author.

DECISION NOTICE
AND
FINDING OF NO SIGNIFICANT IMPACT

WHITE ROCKS NATIONAL RECREATION AREA
MANAGEMENT OBJECTIVES AND DIRECTION

EASTERN REGION
GREEN MOUNTAIN NATIONAL FOREST


The environmental analysis for White Rocks National Recreation Area examines four alternatives for management of the wildlife and recreation resources:

- A. No action
- B. A low intensity of wildlife and recreation management
- C. A moderate intensity of wildlife and recreation management
- D. A high intensity of wildlife and recreation management

The alternatives were developed based upon a thorough review of the status of the resources, Public Law 98-322, the Congressional record, and meetings with interested publics. Issues and concerns, and selection criteria were also developed based on this review. Alternatives were compared with regard to their success at addressing the issues and concerns identified and the selection criteria.

It is my decision to manage White Rocks National Recreation Area at a moderate to high intensity for wildlife and a low to moderate intensity for recreation. The selected alternative is responsive to the issues and concerns identified during the planning process, meets the direction of Congress, is ecologically sound, offers a practical and economically feasible solution, and is acceptable to interested publics.

The implementation of the Management Objectives and Direction will have no significant impact on the quality of the human environment. Therefore, an Environmental Impact Statement will not be prepared.


LARRY HENSON
Regional Forester

1/30/86
DATE

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WHITE ROCKS NATIONAL RECREATION AREA

I. BACKGROUND

White Rocks National Recreation Area (NRA) includes 36,400 acres on the north half of the Manchester Ranger District, Green Mountain National Forest in the Eastern Region of the Forest Service. The area lies within the towns of Dorset and Peru, Bennington County; towns of Mt. Tabor, Mt. Holly and Wallingford, Rutland County; and the town of Weston, Windsor County, State of Vermont. See figures 1 and 2.

The area had been in large timber company ownership from the early 1800's to the 1930's. Early management emphasis was on softwood lumber production. This was followed by the production of charcoal from the mid-1800's to early 1900's. Emphasis in the 1900's has been on hardwood sawlog and pulp production. Forest Service purchase in the area began in the early 1930's. Management emphasis has been on quality timber production, dispersed recreation and wildlife management.

In the 1970's, the Roadless Area Review and Evaluation (RARE II) process identified for study three areas that are now within the NRA: Devil's Den, Griffith Lake and Wilder Mountain.

In 1983, the Vermont Congressional delegation held public hearings in several Vermont communities and worked with public interest groups to develop a management strategy agreeable to all parties. As a result of these efforts, Public Law 98-322 was passed, designating 36,400 acres of the Manchester Ranger District as the White Rocks National Recreation Area. The President signed it on June 19, 1984.

II. PURPOSE OF PLAN

This plan is prepared to meet the requirements of Public Law 98-322 in preparing a Management Plan for the White Rocks National Recreation Area prior to December 31, 1985. This report is a part of the Green Mountain National Forest Land Management Plan as Appendix E.

This plan deals with the management activities on the non-wilderness portion of the NRA. Detailed management plans will be prepared for Big Branch and Peru Peak Wildernesses as part of the implementation of the Forest Plan.

A detailed listing of process used, inventories, analysis, alternatives considered, evaluation, public involvement, and resource maps can be found in Appendices B and C of this plan.

III. ACTIVITIES IN THE WHITE ROCKS NATIONAL RECREATION AREA

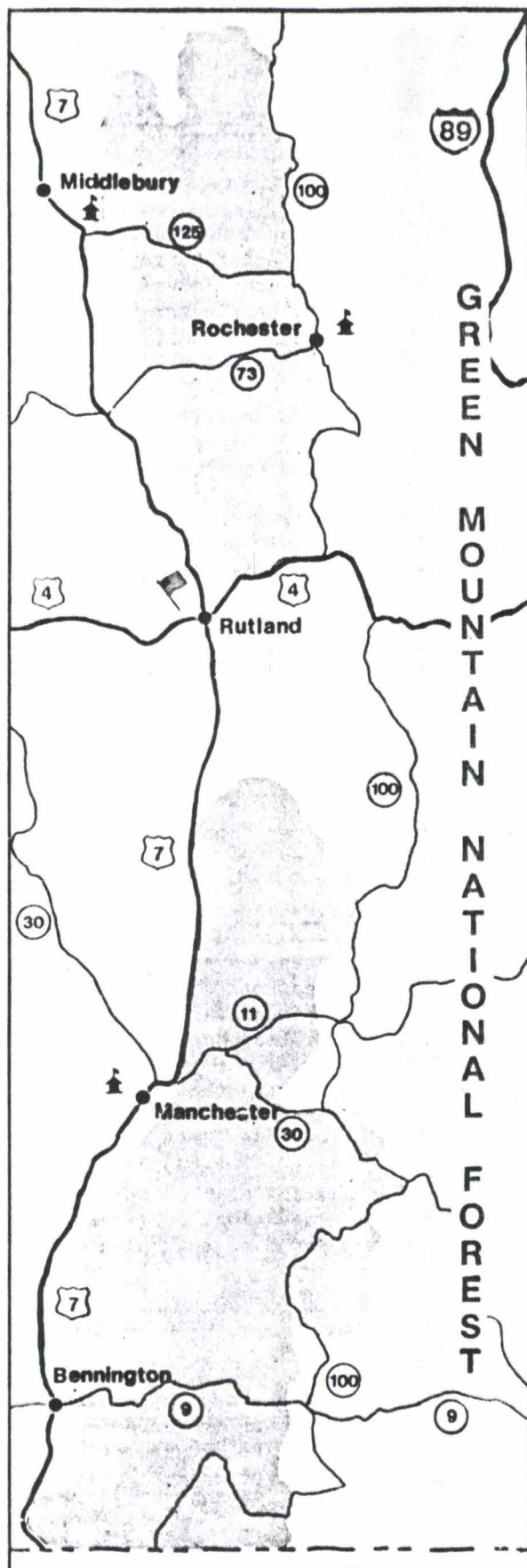
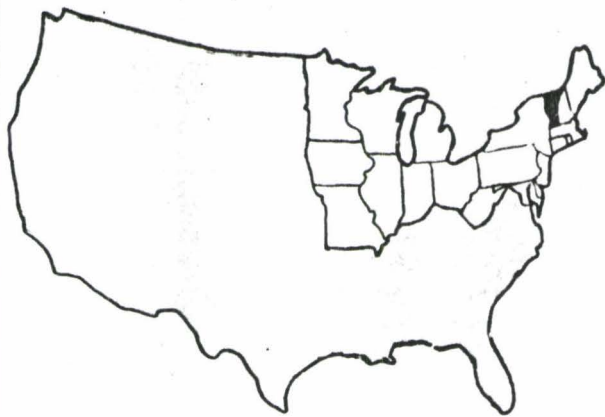
A. OVERVIEW

The following ten year action plan and capital investment program have been developed based upon the recommended management alternative. Activities are listed as vegetative management and facilities maintenance and development. A narrative description and a site specific resource map is provided for each program activity.

FIGURE 1

EASTERN REGION

USDA Forest Service



NATIONAL RECREATION AREA

Big Branch Wilderness

Peru Peak Wilderness

B. TEN YEAR ACTION PLAN

1. Vegetative Management

Vegetative management in the NRA will be done only for recreation or wildlife habitat purposes. Vegetative managements will be done by Forest Service crews or contractors, or through small timber sales. All cutting will be in narrow, irregular patches of five acres or less. These activities will be timed to avoid user conflicts and will take place near existing roads. See figure 3. Figures 3, 4, and 5 are not to scale and are meant to show general locations of activities. Specific details of activities can be found in Appendix C, Section IV. Site specific resource maps are available for viewing at the Green Mountain National Forest, 151 West Street, Rutland, Vermont 05701.

The frequency of management activities in the NRA are::

No activities will occur (includes Wilderness of 13,640 acres)	27,938 acres
Activity once in 120 years	3,360 acres
Activity once in 100 years	3,939 acres
Activity once in 60 years	590 acres
Frequent activity	573 acres
Total	36,400 acres

a. Wildlife Opening Maintenance -- Wildlife openings will be maintained to provide grass, weed and shrub habitat for edge species. Approximately 110 acres will be burned each year during May and June. We expect this will take a small crew about ten days to complete. The areas will green up within two weeks.

b. Aspen Management -- Aspen is important to the overall diversity of the NRA. Many game and non-game species benefit from its presence. It will provide habitat for the deep woods species and their prey. Aspen will be managed on a 60 year rotation. Ten acres of aspen will be cut each year to develop a mixture of age classes.

c. Softwood Management -- Softwoods provide travel and hiding or base cover for snowshoe hare. These are prey species for bobcat and fisher, two featured deep woods species. Softwoods also provide winter cover for deer. Softwoods will be managed on a 100 year rotation. Forty acres of softwoods will be regenerated each year to develop a mixture of age classes.

d. Hardwood Browse Management -- Hardwood browse will be necessary to support snowshoe hare and deer. Both species will be prey for deep woods species. Many other prey species such as mice, birds, and insects will benefit from this activity. Hardwoods will be managed on a 120 year rotation. Thirty acres of hardwoods will be regenerated each year to provide the seedling/sapling habitat and to provide for overall age diversity in hardwoods.

2. Facilities Maintenance

a. Trails - 30 miles of existing Appalachian/Long Trail will be maintained in cooperation with the Green Mountain Club. 61 miles of snowmobile trails in the non-wilderness portion of the NRA will be maintained in cooperation with the Vermont Association of Snow Travelers (VAST). Maintenance will include annual brushing of trails, cleaning of water control structures, signing checks, and bridge inspections. Trails will be remarked every 5 years. See figures 4 and 5.

b. Campsites - There are 7 shelters and 2 group campsites associated with the Appalachian/Long Trail in the NRA. These sites are maintained in cooperation with the Green Mountain Club. Summer caretakers are provided at the group campsites. White Rocks picnic ground in Wallingford and Greendale campground in Weston are adjacent to the NRA and afford support facilities. See figure 4.

c. Parking - Summer parking facilities are provided in conjunction with the Appalachian/Long Trail at Forest Roads 10 and 21. Winter parking facilities are provided in Mount Tabor at the Supply Depot and at Forest Road 10 in Landgrove. Winter parking areas are maintained in cooperation with VAST. See figures 4 and 5.

3. Facilities Development

a. Trails - 12.5 miles of multi-use, non-motorized summer trails will be added in the period 1987-1992 See figure 6. These include:

1.0 mile Green Mountain Connector - from Big Branch Picnic Ground to the Appalachian Trail at FR #10 to complete loop.

3.0 Greendale Loop - looping north from Greendale campground and returning.

7.0 Beaver Meadows Trail - connecting Greendale campground with Wallingford Pond.

0.5 mile FR #60 Connector - connecting FR #60 with Beaver Meadows Trail.

1.0 Wallingford Pond Connector - connects Beaver Meadows Trail with Appalachian/Long Trail.

A 10 mile non-motorized, cross-country ski trail will be built from Forest Road 29 to Forest Road 20 via Beaver Meadows and Wallingford Pond.

Fourteen and a half miles of winter snowmobile trails have been eliminated as they either lie within Wilderness or in a location which causes resource problems. These fourteen and a half miles of trail are held in reserve and can be replaced in the non-wilderness portion of the NRA when demand warrants such action.

b. Campsites - In association with the expansion of the summer trail system, campsites will be built to accommodate 30 more people at one time. These facilities will be split between trail related and roadside facilities. Trail facilities will be provided at Wallingford Pond and Beaver Meadows. See figure 6.

Trail facilities will include a cleared tenting area and native stone firering. Sites will be designated by signing and map designation. Solid waste will be packed out by users to a central disposal site. Toilet and water facilities will only be provided after a review of individual site proposals.

Roadside camping facilities will be provided at Forest Road 10 and the old Job Clearing road at Forest Road 10 and Ten Kilns Brook, and at Forest Road 30 and Lake Brook. Facilities will include off-road parking, cleared tenting area, and native stone fireplace. Solid waste will be packed out by users to a central disposal site at the AT/LT crossing on Forest Road 10. Toilet and water facilities will only be provided after a review of individual site proposals.

c. Parking - Summer parking facilities will be provided to support the expanded summer trail system. Facilities will be provided at the ends of Forest Roads 17, 20, and 60. Facilities will include spot-filling and gravelling to provide off-road parking for 3 cars. (See figure 6.) Solid waste will be packed out by users to a central disposal site. No toilet or water facilities will be provided.

A self-service information site will be built at the Silver Bridge area along Forest Road 10. The facility will be designed to identify the area and to provide visitor information on opportunities within the area.

Winter parking facilities will be expanded. Ten car winter parking areas will be built at the end of Forest Road 20 in Wallingford, Forest Road 29 in Weston and Forest Road 76 in Mount Holly. See figure 5. Areas will be plowed in cooperation with local town road maintenance. No water or toilet facilities will be provided.

C. CAPITAL INVESTMENT PROGRAM

Projects listed in the following table are scheduled to be completed in the 5 year period 1987-1992. Projects are listed by trails, developments, and parking. Categories are mutually exclusive.

Table 3 - Projects in the White Rocks NRA, 1987-1992

Project Name	Quantity	Cost (\$M) ^{2/}
Trails		
Green Mountain Connector	1.0 mile	3.1
Greendale Loop	3.0 miles	12.0
Beaver Meadows Trail	7.0 miles	22.0
Forest Road 60 Connector	0.5 mile	2.0
Wallingford Pond Connector	1.0 mile	3.5
NRA Cross-country	10.0 miles	25.0
Facilities		
Forest Road 10	10 PAOT ^{1/}	4.0
Wallingford Pond	5 PAOT	2.0
Forest Road 30	5 PAOT	2.0
Beaver Meadows	10 PAOT	4.0
Parking, Summer		
Forest Road 30	10 PAOT	3.0
Forest Road 60	10 PAOT	3.0
Parking, Winter		
Forest Road 10 expansion	50 PAOT	10.0
Forest Road 20	50 PAOT	10.0
Forest Road 29	50 PAOT	10.0
Forest Road 76	50 PAOT	10.0
Forest Road 21	50 PAOT	10.0

^{1/} PAOT = People at one time.

^{2/} \$M = Thousands of Dollars.

D. STANDARDS AND GUIDELINES

Standards and guidelines have been written to guide management action and to assure management objectives are achieved. Forest-wide standards and guidelines which affect the management of primitive and semi-primitive Recreation Opportunity Spectrum (ROS) classes and Wilderness are found in Chapter IV of the Green Mountain National Forest Plan. Specific standards and guidelines for the NRA are found below.

STANDARDS AND GUIDELINES

8.1B WHITE ROCKS NATIONAL RECREATION AREA

PURPOSE

The White Rocks National Recreation Area (NRA) was established by Public Law (PL) 98-322 for the purpose of preserving and protecting "existing and wild values and to promote wild forest and aquatic habitat for wildlife, watershed protection, opportunities for primitive and semi-primitive recreation, and scenic, ecological and scientific values." (PL 98-322, Sec. 201(b)).

PHYSICAL DESCRIPTION

White Rocks NRA covers 36,400 acres and includes the Big Branch (6720 acres) and Peru Peak (6920 acres) Wildernesses. The management direction for the two Wildernesses is found under MA 5.1. The direction contained here applies to the non-Wilderness lands only.

The non-Wilderness lands in the White Rocks NRA "...are of a predominantly roadless nature and possess outstanding wild values that are important for primitive and semi-primitive recreation, watershed protection, wildlife habitat, ecological, study education, and historic and archaeological resources and are deemed suitable for preservation and protection..." (PL 98-322, Sec. 201(a)(4)).

LOCATION

The White Rocks NRA is in the northern portion of the Manchester District in southern Vermont. White Rocks National Recreation Area lies entirely within the Manchester Ranger District of the Green Mountain National Forest. The area is in the Towns of Dorset and Peru, Bennington County; Towns of Mt. Holly, Mt. Tabor, and Wallingford, Rutland County; and the Town of Weston, Windsor County.

A. WILDERNESS

1. Big Branch and Peru Peak Wildernesses will be managed consistent with the direction in Goal 5.1.

B. RECREATION/VISUAL

1. Management Objectives

a. Primitive and Semi-Primitive non-motorized recreation opportunities will be provided during the summer season.

b. Primitive, Semi-Primitive motorized and non-motorized opportunities will be provided during the winter season.

2. Motorized Activities

a. Wheeled recreational vehicles will only be allowed on roads designated in PL 98-322. Snowmobiles may be used off-trails in designated areas.

b. In other areas, no motorized activities will be allowed except those required for administration.

3. Boats with motors are prohibited from all lakes and ponds.

4. Motorized equipment and motorized hand tools may be used to maintain the Appalachian-Long Trail system.

5. The Appalachian-Long Trail will be managed consistent with the direction in Goal 8.1A.

6. The following locations have high visual sensitivity:

1. Forest Road 10

2. Long Trail/Appalachian Trail

3. Little Rock Pond, Griffith Lake, Wallingford Pond, Fifield Pond

4. Big Branch and Peru Peak Wildernesses

7. All other areas are considered moderately sensitive visually.

8. The existing amount of vistas will be maintained along Forest Road No. 10. See 2320 letters of 3/29/85 for more detail on where and how vistas are to be maintained.

C. FISH AND WILDLIFE

1. Emphasize management of deep woods species and their habitats in the interior of the NRA.

2. Emphasize management for edge species along roads and in upland openings.

3. Use management practices that maintain the remote habitat quality of the NRA.

4. Vermont Fish and Wildlife is permitted to manage fish and game at locations and intensities of their program prior to PL 98-322. Map of these locations is available at the Manchester Ranger District.

D. OPENINGS

1. Permanent openings will be maintained every 5 to 10 years using methods compatible with the NRA objectives.
2. Treatments will include mowing, prescribed fire, hand debrushing, and crews with chainsaws.

E. TIMBER

1. Trees will be cut only for the following reasons:
 - .Maintain, improve, or increase the recreation environment;
 - .Maintain habitats for threatened, endangered, or rare plants;
 - .Maintain or create desired wildlife habitat conditions for deep woods and edge species;
 - .Maintain or create vistas.
2. Commercial logging may be used to achieve recreation and wildlife management objectives.
3. Fuelwood and Christmas tree cutting may occur in designated roadside areas. Manchester Ranger District will prepare maps of designated areas.
4. Temporary openings created by clearcutting will be less than 5 acres in size, narrow and irregular in shape.
5. For managed forest stands average rotation age by forest type:

Aspen	60 years
Hardwood	120 years
Softwoods	100 years
6. Skidding methods will be chosen to minimize site disturbance and reduce future possibility of ORV trespass. Skidding machine width, including blade, will not exceed 8 feet.

F. FIRE

1. Prescribed Fire is an acceptable management tool for developing and maintaining wildlife and recreation openings.

G. PERMANENT ROADS

1. Roads open to public travel include forest roads 10, 20, 31, 60, 253, and 301. Forest Road 30 is open to Lake Brook. All other roads are closed to public travel but may be used for management purposes.

2. No new roads are to be constructed, except for relocating portions of existing roads for environmental reasons or building turnouts.

3. All inholders and special use permittees have traditional, conventional means of access, including motorized access. See Appendix C, Section II A.6 for a list of inholders and special use permittees.

H. UTILITY CORRIDORS

1. Two pipelines within NRA will be allowed to continue.

2. No new corridors will be allowed.

I. FACILITIES

1. No additional non-recreation structures will be built.

J. LANDS

1. Lands around the NRA will receive a high priority for acquisition to enhance the objectives of the area.

K. CULTURAL

1. Significant cultural resources will be protected through dispersal, control, and limitations on recreation use.

L. MINERALS

1. All lands are withdrawn from all forms of mineral leasing or exploration including geothermal leasing and all amendments thereto.

M. LOST POND BOG

1. The area is located in Mt. Tabor, Vermont, elevation 2700 feet, and comprises 25 acres.

The area includes lands seen from the margins of the pond. This boundary was selected to protect the natural appearance of the area. Most of the land outside the bog is covered with ledges and boulders.

Several plant species on the bog margins could be easily eliminated by trampling and picking. Unless recreation use increases, the following management requirements should be sufficient.

a. Recreation use will not be encouraged because of the scarcity of some of the unusual and sensitive plants. Trails will not be built to Lost Pond Bog.

b. Vegetation manipulation will not be allowed.

c. Facilities and developments will not be allowed.

d. Pesticides and fire will not be used as management tools.

N. WHITE ROCKS CLIFFS AND ICE BEDS

1. The Cliffs and ice beds are located in Wallingford, Vermont, elevation 1100-1900 feet, 105 acres. The special area includes the top of the cliffs, the cliff face, and the Ice Beds. The requirements below should be followed to protect the area.

a. Vegetation management will not be allowed except as needed for Peregrine Falcon hacking.

b. As needed, some sections will be closed to the public to protect nesting Peregrine Falcons.

c. Facilities and developments other than footpaths and Peregrine Falcon hacksites will not be allowed.

d. Pesticides will not be used.

O. REMOTE OR HIGH ELEVATION PONDS

1. The ponds to receive special attention in the NRA include:

- Griffith Lake, elevation 2600 feet, 50 acres.
- Big and Little Mud Ponds, elevation, 2580 feet, 90 acres.
- Wallingford Pond, elevation 2165 feet, 310 acres.
- Little Rock Pond, elevation 1854 feet, 52 acres.
- Fifield Pond

The boundaries of these ponds include all water area and much of the area seen from each pond's shoreline. The requirements below should be followed to protect the area.

1. The area around each pond will be managed to provide a healthy, natural-appearing landscape.
2. Facilities other than those necessary to provide semi-primitive recreation opportunities will not be allowed.

E. RESEARCH

1. WILDLIFE

The White Rocks NRA represents a large remote habitat in the Green Mountains. This habitat is important to bobcat, black bear and fisher. These species require varying degrees of remoteness for food, denning, and rearing of young.

The Green Mountain ecosystem is being impacted by primary and second home development and by recreational development. The quality of remoteness is being downgraded rapidly. We do not know precisely when disturbance exceeds the tolerance of deep woods species.

Basic research data on home range, food habits, reaction to disturbance, and habitat utilization are needed for all species. This data will help us manage the NRA. The NRA provides a stable environment where research results may be used to forecast habitat trends for deep woods species on the National Forest and throughout the mountains of Vermont.

2. RECREATION

Research will focus on capacity figures, use data, cost information, and the quality of the experience being provided. As data is obtained, the Recreation Information Management system (RIM) will be updated, improving the data base for future budget and planning efforts.

Several facets of capacity needs to be researched. We need to improve our capacity estimates for roads, trails, and recreation developments. The effects the various recreation opportunity class and development levels have on projected capacities needs to be checked. The effect of projected capacities on the quality of the recreation experience also needs to be looked at.

Use data needs to be categorized by recreation opportunity class and by specific recreation activity. User participation data should be collected to refine realistic capacity information. Capacity and use data can best be obtained by intensively monitoring representative areas of the forest by on-site personnel. This can be done at shelter sites and other sites where caretakers are assigned, at camping or picnic areas where volunteer hosts are in residence, and along established maintenance patrol routes. Where personnel are not routinely available, double sampling schedules and/or mechanical counters may be employed. For more dispersed activities having an extensive use season, we can rely on user group data and forestwide spot sampling.

Cost data is needed for all administrative, operational, and maintenance items. These costs should be refined for recreation opportunity spectrum classes. District project work plans can be broken down to a level where these cost items can be identified in district work plans.

Finally, we need to evaluate the quality of the experience we are providing. Are we meeting the quality of experience outlined in the Standards and Guidelines of the forest plan? Are the Standards and Guidelines in the forest plan sufficient to maintain the desired experience level? Can the experience levels be maintained without resource deterioration?

F. MONITORING AND EVALUATION

Objectives

The monitoring and evaluation of the proposed actions must determine if the management actions are achieving the desired results. Objectives of the monitoring and evaluation will be to assure that:

- the physical and social resource is being protected,
- management objectives are being achieved,

- management systems adjust to changing demand patterns which are within the scope of management objectives, and
- the physical and social resource is being protected.

Methods

The limits of acceptable change concept will be used to monitor the physical and social resource and management objectives in White Rocks National Recreation Area and to provide the resource manager with reference points to know when mitigating measures should be considered. Limits of acceptable change are defined as the amount of man-caused changes to the biophysical and social components of the recreation resource which are tolerable without loss of the experience we are trying to provide to the user. Limits of acceptable change are measured with indicators that will show signs of change in the recreation opportunity.

The following biological and social components will be monitored and documented:

BIOPHYSICAL COMPONENTS

ITEM	INDICATOR	STANDARD
Condition class of campsites	Condition of ground vegetation	Less than 10% of sites in Class 3. ^{1/} No Class 4 or 5 sites. Verify by annual inspection of all sites and photo points.
Trail Condition	1. Construction and maintenance meets recreation and visual standards and guidelines for recreation opportunity.	Less than 10% of trail exceed standards and guidelines.
	2. Soil movement, mud holes, or trail corridor widening.	Less than 20% of trail mileage not meeting standards. Verify by annual inspection and photo points. 100% sample at attractors, 50% sample of other trails.

^{1/} Refers to limits of acceptable change classes. See FSM 2323.1, Interim Directive #31.

ITEM	INDICATOR	STANDARD
Recreation Facilities	1. Construction meets recreation and visual standards and guidelines for Recreation Opportunity.	Less than 10% of facilities exceed standards and guidelines. Verify by pre and post review by landscape architect.
	2. Condition of recreation developments.	Less than 10% of facilities in RIM Condition ^{1/} class 2 or greater. Verify by annual RIM facility condition inspection.
Vehicle Parking	Adequacy of summer and winter parking facilities.	Less than 10 weekend or holiday days per year facilities are full and potential users are turned away. Verify by: - sampling by maintenance personnel - vehicle counts - documenting user feedback.
Off-road Vehicle Use	Motorized vehicle use on closed roads or trails.	No motorized vehicle on closed roads and trails. Verify by visual inspection
Special Areas	Adequate measures exist and are in force to protect outstanding characteristics of all special areas.	All special areas remain in condition of Class I of limits of acceptable change. Verify by an annual inspection and photo point survey.

1/ Refers to Recreation Information Management condition classes. See FSH 2309.11, Section 122.

ITEM	INDICATOR	STANDARD
Visual Condition Mixture	On-site and off-site visual conditions meet standards and guidelines for recreation opportunity and viewer sensitivity.	All activities meet on-site and off-site requirements. Verify by pre and post activity review by Forest landscape architect. Follow-up review to see that visual objectives are met.

SOCIAL COMPONENTS

Carrying Capacity	Facility use meets standards and guidelines for recreation opportunity.	Less than 10% of use season facility exceeds capacities expressed in standards and guidelines.
	Standards and guidelines adequately address users needs and provide desired opportunity.	Less than 10% of users express dissatisfaction. Verify by: <ul style="list-style-type: none"> - random sampling by forest personnel - vehicle counts at parking facilities - visual checks by volunteer caretakers - user feedback documentation.

Monitoring the physical and social resource will give the manager a good perspective of the success with which various management objectives are being achieved. Observation by Forest Service employees and volunteers working in the area will be a further source of feedback on the success of management objectives. Cooperators, such as the Green Mountain Club, will be assisting in collecting and reporting data.

The management objectives for the NRA will be further reviewed during the next round of Forest Land Management Planning. Knowledge gained from resource monitoring will be used to refine management objectives.

We must assure that management systems adjust to changing demand patterns which are within the scope of management objectives. Monitoring will supply information on patterns of use. The preferred alternative was selected to provide the manager with a great degree of latitude to respond to uncertain future demands.

It will be a challenge to recognize trends resulting from use and technological changes and to respond to them. Protection of the physical and social resource and the expressed interest of Congress should guide any future management actions.

APPENDIX A

PUBLIC LAW 98-322

Public Law 98-322
98th Congress

An Act

To designate certain National Forest System lands in the State of Vermont for inclusion in the National Wilderness Preservation System and to designate a national recreation area.

June 19, 1984
[H.R. 4198]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Vermont Wilderness Act of 1984".

Vermont
Wilderness Act
of 1984.

TITLE I—NEW WILDERNESS AREAS

FINDINGS AND POLICY

SEC. 101. (a) Congress finds that—

(1) in the vicinity of major population centers and in the more populous eastern half of the United States there is an urgent need to identify, designate, and preserve areas of wilderness by including suitable lands within the National Wilderness Preservation System;

National
Wilderness
Preservation
System.
National Forest
System.

(2) in recognition of this urgent need, certain suitable lands in the National Forest System in Vermont were designated by Congress as wilderness in 1975;

(3) there exist in the National Forest System in the vicinity of major population centers and in Vermont additional areas of undeveloped land which meet the definition of wilderness in section 2(c) of the Wilderness Act;

16 USC 1131.

(4) lands in Vermont which are suitable for designation as wilderness are increasingly threatened by the pressures of a growing and concentrated population, expanding settlement, spreading mechanization, and development and uses inconsistent with the protection, maintenance, and enhancement of their wilderness character; and

(5) the Wilderness Act establishes that an area is qualified and suitable for designation as wilderness which (i) though man's works may have been present in the past, has been or may be so restored by natural influences as to generally appear to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable, and (ii) may, upon designation as wilderness, contain certain preexisting, nonconforming uses, improvements, structures, or installations; and Congress has reaffirmed these established policies in the designation of additional areas since enactment of the Wilderness Act, exercising its sole authority to determine the suitability of such areas for designation as wilderness.

16 USC 1131
note.

(b) The purpose of this title is to designate certain National Forest System lands in the State of Vermont as components of the National Wilderness Preservation System, in order to preserve such areas as an enduring resource of wilderness which shall be managed to perpetuate and protect watersheds and wildlife habitat, preserve scenic and historic resources, and promote scientific research, primi-

tive recreation, solitude, physical and mental challenge, and inspiration for the benefit of all Americans to a greater extent than is possible in the absence of wilderness designation.

DESIGNATION OF WILDERNESS AREAS

SEC. 102. In furtherance of the purposes of the Wilderness Act (16 U.S.C. 1131-1136), the following lands in the State of Vermont are designated as wilderness and, therefore, as components of the National Wilderness Preservation System:

16 USC 1132
note.

(1) certain lands in the Green Mountain National Forest, Vermont, which comprise approximately twenty one thousand four hundred and eighty acres, as generally depicted on a map entitled "Breadloaf Wilderness—Proposed", dated September 1983, and which shall be known as the Breadloaf Wilderness;

16 USC 1132
note.

(2) certain lands in the Green Mountain National Forest, Vermont, which comprise approximately six thousand seven hundred and twenty acres, as generally depicted on a map entitled "Big Branch Wilderness—Proposed", dated September 1983, and which shall be known as the Big Branch Wilderness;

16 USC 1132
note.

(3) certain lands in the Green Mountain National Forest, Vermont, which comprise approximately six thousand nine hundred and twenty acres, as generally depicted on a map entitled "Peru Peak Wilderness—Proposed", dated September 1983, and which shall be known as the Peru Peak Wilderness;

(4) certain lands in the Green Mountain National Forest, Vermont, which comprise approximately one thousand and eighty acres, as generally depicted on a map entitled "Lye Brook Additions—Proposed", dated September 1983, and which are hereby incorporated in, and shall be deemed to be a part of, the Lye Brook Wilderness as designated by Public Law 93-622; and

88 Stat. 2096.

16 USC 1132
note.

(5) certain lands in the Green Mountain National Forest, Vermont, which comprise approximately five thousand and sixty acres, as generally depicted on a map entitled "George D. Aiken Wilderness—Proposed", dated September 1983, and which shall be known as the George D. Aiken Wilderness.

MAPS AND DESCRIPTIONS

SEC. 103. As soon as practicable after enactment of this Act, the Secretary of Agriculture shall file a map and a legal description of each wilderness area designated by this title with the Committee on Interior and Insular Affairs and the Committee on Agriculture of the United States House of Representatives and with the Committee on Agriculture, Nutrition, and Forestry of the United States Senate. Each such map and description shall have the same force and effect as if included in this title, except that correction of clerical and typographical errors in each such map and description may be made by the Secretary. Each such map and description shall be on file and available for public inspection in the Office of the Chief of the Forest Service, Department of Agriculture.

Public
availability.

ADMINISTRATION OF WILDERNESS

SEC. 104. (a) Subject to valid existing rights, each wilderness area designated by this title shall be administered by the Secretary of

Agriculture in accordance with the provisions of the Wilderness Act governing areas designated by that Act as wilderness, except that any reference in such provisions to the effective date of the Wilderness Act shall be deemed to be a reference to the date of enactment of this title. 16 USC 1131 note.

(b) As provided in section 4(d)(8) of the Wilderness Act, nothing in this title shall be construed as affecting the jurisdiction or responsibilities of the State of Vermont with respect to wildlife and fish in the national forest in the State of Vermont. 16 USC 1133.

(c) Notwithstanding any provision of the Wilderness Act or any other provision of law, the Appalachian Trail and related structures, the Long Trail and related structures, and the associated trails of the Appalachian Trail and the Long Trail in Vermont may be maintained. 16 USC 1131 note.

EFFECT OF RARE II

SEC. 105. (a) Congress finds that—

Conservation.

(1) the Department of Agriculture has completed the second roadless area review and evaluation program (RARE II); and

(2) Congress has made its own review and examination of National Forest System roadless areas in the State of Vermont and of the environmental impacts associated with alternative allocations of such areas.

(b) On the basis of such review, Congress hereby determines and directs that— Congress.

(1) without passing on the question of the legal and factual sufficiency of the RARE II final environmental statement (dated January 1979) with respect to National Forest System lands in States other than Vermont, such statement shall not be subject to judicial review with respect to National Forest System lands in the State of Vermont;

(2) with respect to the National Forest System lands in the State of Vermont which were reviewed by the Department of Agriculture in the second roadless area review and evaluation (RARE II) and those lands referred to in subsection (d), that review and evaluation or reference shall be deemed for the purposes of the initial land management plans required for such lands by the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976, to be an adequate consideration of the suitability of such lands for inclusion in the National Wilderness Preservation System and the Department of Agriculture shall not be required to review the wilderness option prior to the revisions of the plans, but shall review the wilderness option when the plans are revised, which revisions will ordinarily occur on a ten-year cycle, or at least every fifteen years, unless, prior to such time, the Secretary of Agriculture finds that conditions in a unit have significantly changed;

16 USC 1600
note.
16 USC 1600
note.

(3) areas in the State of Vermont reviewed in such final environmental statement or referenced in subsection (d) and not designated as wilderness or for special management pursuant to section 204 of this Act upon enactment of this Act shall be managed for multiple use in accordance with land management plans pursuant to section 6 of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976: *Provided*, That such areas need not be managed for the purpose of protecting their

16 USC 1604.

suitability for wilderness designation prior to or during revision of the initial land management plans; and

16 USC 1604.

(4) in the event that revised land management plans in the State of Vermont are implemented pursuant to section 6 of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976, and other applicable law, areas not recommended for wilderness designation need not be managed for the purpose of protecting their suitability for wilderness designation prior to or during revision of such plans, and areas recommended for wilderness designation shall be managed for the purpose of protecting their suitability for wilderness designation as may be required by the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976, and other applicable law.

16 USC 1600

note.

16 USC 1600

note.

16 USC 1604.

(c) As used in this section, and as provided in section 6 of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976, the term "revision" shall not include an "amendment" to a plan.

(d) The provisions of this section shall also apply to National Forest System roadless lands in the State of Vermont which are less than five thousand acres in size.

TITLE II—WHITE ROCKS NATIONAL RECREATION AREA

National Forest
System.

16 USC 460nn.

FINDINGS AND POLICY

SEC. 201. (a) Congress finds that—

(1) Vermont is a beautiful but small and rural State, situated near four large cities with combined metropolitan populations of over fifteen million;

(2) geographic and topographic characteristics of Vermont provide opportunities for large numbers of people to experience the beauty of primitive areas, but also place unusual pressure to provide options to maximize the availability of such lands for a variety of forms of recreation;

(3) certain lands designated as the Big Branch and Peru Peak Wilderness Areas by title I of this Act are suitable for inclusion as part of the national recreation area; and

(4) certain other lands in the Green Mountain National Forest not designated as wilderness by this Act are of a predominantly roadless nature and possess outstanding wild values that are important for primitive and semiprimitive recreation, watershed protection, wildlife habitat, ecological study, education, and historic and archeological resources, and are deemed suitable for preservation and protection as part of a national recreation area.

(b) The purpose of this title is to designate certain National Forest System lands in the State of Vermont as the White Rocks National Recreation Area in order to preserve and protect their existing wilderness and wild values and to promote wild forest and aquatic habitat for wildlife, watershed protection, opportunities for primitive and semiprimitive recreation, and scenic, ecological, and scientific values.

DESIGNATION OF WHITE ROCKS NATIONAL RECREATION AREA

SEC. 202. In furtherance of the findings and purposes of this title, certain lands in the Green Mountain National Forest, Vermont, which comprise approximately thirty-six thousand four hundred acres, as generally depicted on a map entitled "White Rocks National Recreation Area—Proposed", dated September 1983, are hereby designated as the White Rocks National Recreation Area.

16 USC 460nn-1.

MAP AND DESCRIPTION

SEC. 203. As soon as practicable after enactment of this Act, the Secretary of Agriculture shall file a map and legal description of the national recreation area designated by this title with the Committee on Interior and Insular Affairs and the Committee on Agriculture of the United States House of Representatives and with the Committee on Agriculture, Nutrition, and Forestry of the United States Senate. Such map and description shall have the same force and effect as if included in this title, except that correction of clerical and typographical errors in such map and description may be made by the Secretary. Such map and description shall be on file and available for public inspection in the Office of the Chief of the Forest Service, Department of Agriculture.

16 USC 460nn-2.

Public
availability.

ADMINISTRATION OF THE NATIONAL RECREATION AREA

SEC. 204. (a) Subject to valid existing rights, the White Rocks National Recreation Area designated by this title shall be administered by the Secretary of Agriculture in accordance with the findings and purpose of this title and the laws, rules, and regulations applicable to the national forests in a manner compatible with the following objectives:

16 USC 460nn-3.

(1) the continuation of existing primitive and semiprimitive recreational use in a natural environment;

(2) utilization of natural resources shall be permitted only if consistent with the findings and purposes in this title;

(3) preservation and protection of forest and aquatic habitat for fish and wildlife; and

(4) protection and conservation of special areas having uncommon or outstanding wilderness, biological, geological, recreational, cultural, historical or archeological, and scientific, or other values contributing to the public benefit.

(b) Notwithstanding any other provision of law, federally-owned lands within the White Rocks National Recreation Area as designated by this title are hereby withdrawn from all forms of appropriation under the mineral leasing laws, including all laws pertaining to geothermal leasing, and all amendments thereto.

Public lands.

(c) The Secretary shall permit hunting, fishing, and trapping on lands and waters under the Secretary's jurisdiction within the boundaries of the national recreation area designated by this title in accordance with applicable laws of the United States and the State of Vermont.

(d) Within eighteen months after the date of enactment of this Act, the Secretary shall develop and submit to the Committee on Interior and Insular Affairs and the Committee on Agriculture of the United States House of Representatives and to the Committee on Agriculture, Nutrition, and Forestry of the United States Senate

Management
plan.

a comprehensive management plan for the national recreation area designated by this title.

Public
availability.

(e) In conducting the reviews and preparing the comprehensive management plan required by subsection (d), the Secretary shall provide for full public participation, shall consider the views of all interested agencies, organizations, and individuals, and shall particularly emphasize the values enumerated in section 201(a)(4) of this title.

Approved June 19, 1984.

LEGISLATIVE HISTORY—H.R. 4198:

HOUSE REPORT No. 98-533, Pt. 1 (Comm. on Interior and Insular Affairs).

SENATE REPORT No. 98-416 (Comm. on Agriculture, Nutrition, and Forestry).

CONGRESSIONAL RECORD:

Vol. 129 (1983): Nov. 15, considered and passed House.

Vol. 130 (1984): May 24, considered and passed Senate, amended.

June 4, House concurred in Senate amendments.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 20, No. 25 (1984):

June 19, Presidential statement.

APPENDIX B

CURRENT STATUS OF RESOURCES

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I. PRIMITIVE AND SEMI-PRIMITIVE RECREATION OPPORTUNITIES

Public Law 98-322 directs that the NRA be managed to "maintain, improve, or increase the primitive and semi-primitive environment". Several conditions influence our ability to supply various recreation opportunities. These conditions include the visual condition, people density, distance from human activity, size of area, and activity characterization. (See Figure B-01)

A. VISUAL CONDITION

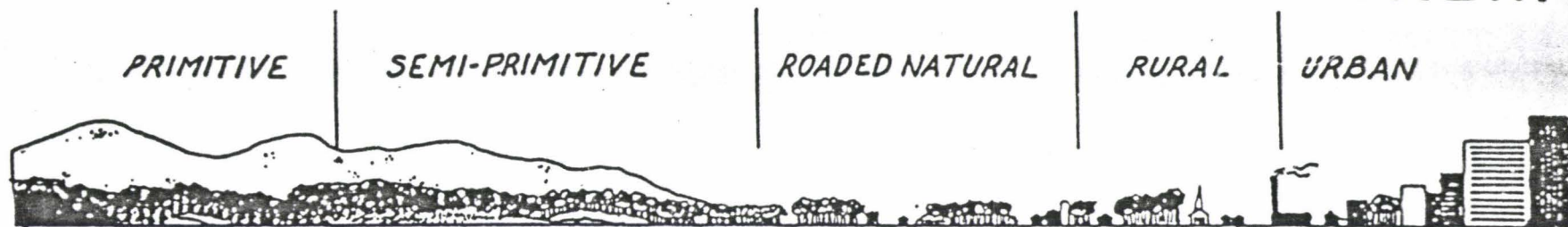
The visual condition reflects how natural the environment appears. Visual conditions can be viewed as a spectrum going from entirely natural to entirely altered with regards to the evidence of man's activity in the area.

Two types of alterations are recognized, permanent alterations and temporary alterations. Permanent alterations refer to changes sustained over time by maintenance. Examples of permanent alterations are roads, campsites, and maintained wildlife openings. Temporary alterations refer to changes allowed to recover over time through the absence of maintenance. An example of a temporary alteration would be a timber harvest to create a particular level or distribution of vegetative diversity. Once this activity is completed, it would be allowed to recover naturally over time.

Figure B-01

R.O.S.

RECREATION OPPORTUNITY SPECTRUM



PRIMITIVE

SEMI-PRIMITIVE

ROADED NATURAL

RURAL

URBAN

NOT
ALTERED
AT ALL

1

VISUAL CONDITION SPECTRUM

OPPORTUNITY TO EXPERIENCE NATURAL OR
ALTERED ENVIRONMENTS

ENTIRELY
ALTERED

MANY
ACRES
PER PERSON

2

PEOPLE DENSITY SPECTRUM

OPPORTUNITY FOR SOLITUDE OR TO SOCIALIZE

MANY
PEOPLE
PER ACRE

VERY REMOTE
FROM MAN'S
ACTIVITY

3

DISTANCE FROM HUMAN ACTIVITY SPECTRUM

OPPORTUNITY FOR REMOTENESS

INTENSE
ACTIVITIES
OF MAN

VAST
AREA OF
OPPORTUNITY

4

SIZE OF AREA SPECTRUM

OPPORTUNITY TO EXPERIENCE VASTNESS
OF NATURE

SIZE AREA
NOT
IMPORTANT

A FEW
QUIET
ACTIVITIES
OF MAN

5

RECREATION ACTIVITY SPECTRUM

OPPORTUNITY TO PURSUE SPECIFIC ACTIVITIES

MOST ANY
ACTIVITY
OF MAN

Table B-01 describes the visual intensity of change to a specific site.

Table B-01 Visual Condition Spectrum

<u>Entirely Natural</u>	VISUAL CONDITION SPECTRUM	<u>Entirely Altered</u>
Forest Service Visual Condition	Definition Standard ^{1/}	
P (preservation)	No alterations by man.	
R (retention)	Alterations exist but they are not apparent acts of man.	
PR (partial retention)	Alterations are evident but are subordinate to the natural surroundings.	
M (modification)	Alterations are evident and even dominate the natural surroundings but they are in harmony. They relate in color, texture, etc.	
MM (maximum modification)	Alterations dominate to a high degree. There is lack of harmony in some elements such as color, texture, etc. The landscape is still composed primarily of natural features such as vegetation, water, rock and land forms.	
Exceeding Forest Service standard of maximum modification	There are visual conditions existing off National Forest that are in extremely altered states. Portions of some urban areas are entirely composed of synthetic materials. ^{2/}	

^{1/} Condition attained within one year following construction or other management activity.

^{2/} Conditions exceeding MM on adjacent private lands may influence management decisions on National Forest.

Recreation opportunities encompass thousands of acres consisting of a mixture of visual conditions. Therefore, visual condition standards need to be expressed as a percentage mix per 1,000 acres of land.

Figure B-02 gives an example of visual condition mix on a 1000 acres as a mix of roads, trails and campsites. These are designed and constructed not to exceed visual condition partial retention when viewed onsite. Note the location and timing of the more temporary alterations to the vegetation and consider the effect of time. Also note the difference in visual condition when viewed from offsite such as from more than a half mile.

Figure B-03 approximates the appearance of the 1000 acres. Note that the roads, trails and campsites rated as partial retention onsite are for the most part not evident (retention) from offsite.

Note too the vegetative manipulation and older activities are rated as partial retention onsite and mostly not evident (retention) as seen offsite. The two clearcuts (2 years) rated as visually dominant (modification) onsite, appear subordinate to the surroundings (partial retention) when seen from offsite.

Figure B-02

EXAMPLE OF VISUAL CONDITION MIX

RECREATION OPPORTUNITY SEMI-PRIMITIVE AT HIGHEST DEGREE OF DEVELOPMENT		
MIXTURE STANDARDS PER 1000 ACRES		
MIX %	VISUAL CONDITION	ACRES
UP TO 1 %	PR- PARTIAL RETENTION (PERMANENT)	10
3 %	M- MODIFICATION (TEMPORARY)	30
9 %	PR- PARTIAL RETENTION (TEMPORARY)	90
AT LEAST 87 %	R- RETENTION (TEMPORARY)	870
100 %	TOTAL	1000

1000 ACRE EXAMPLE

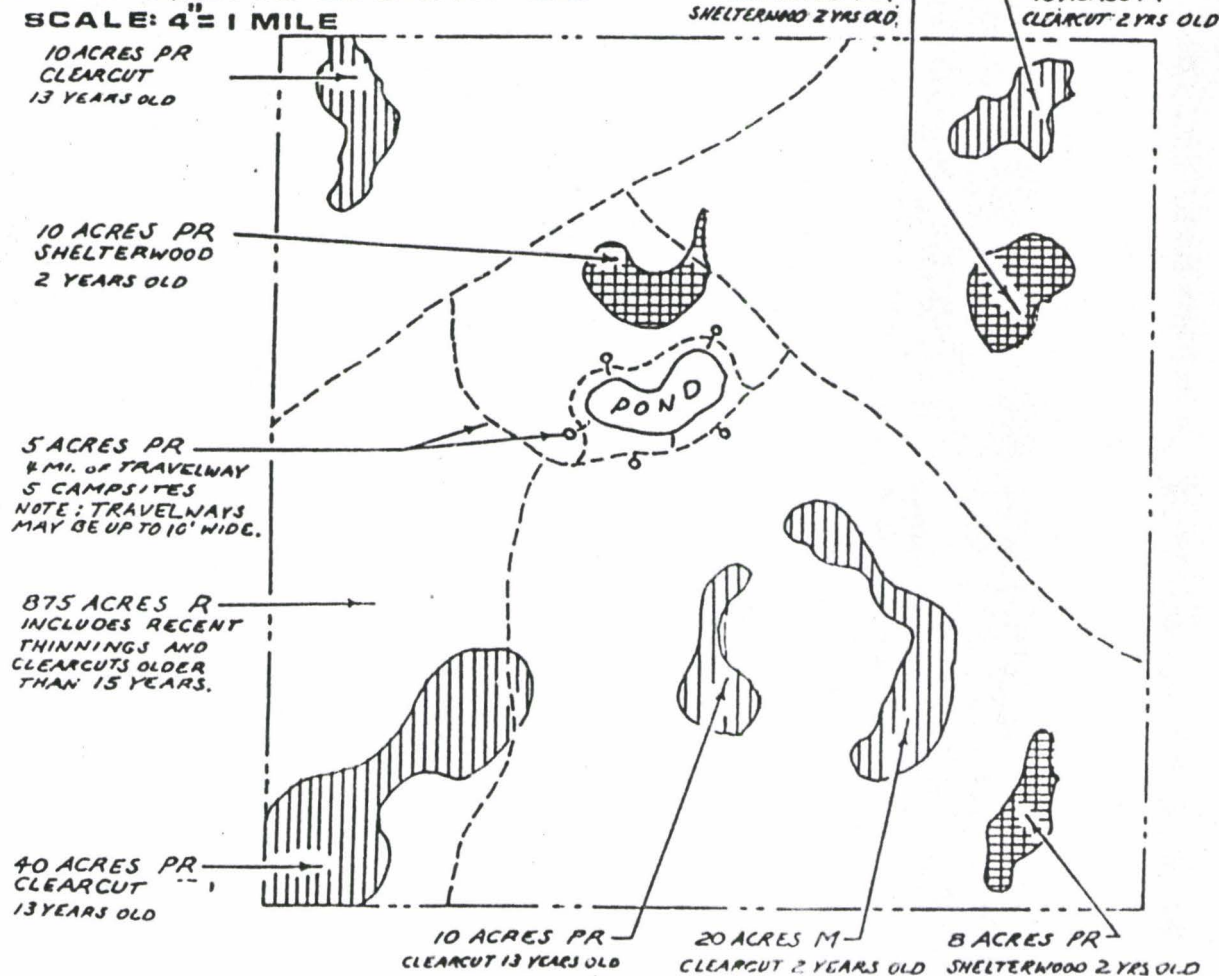
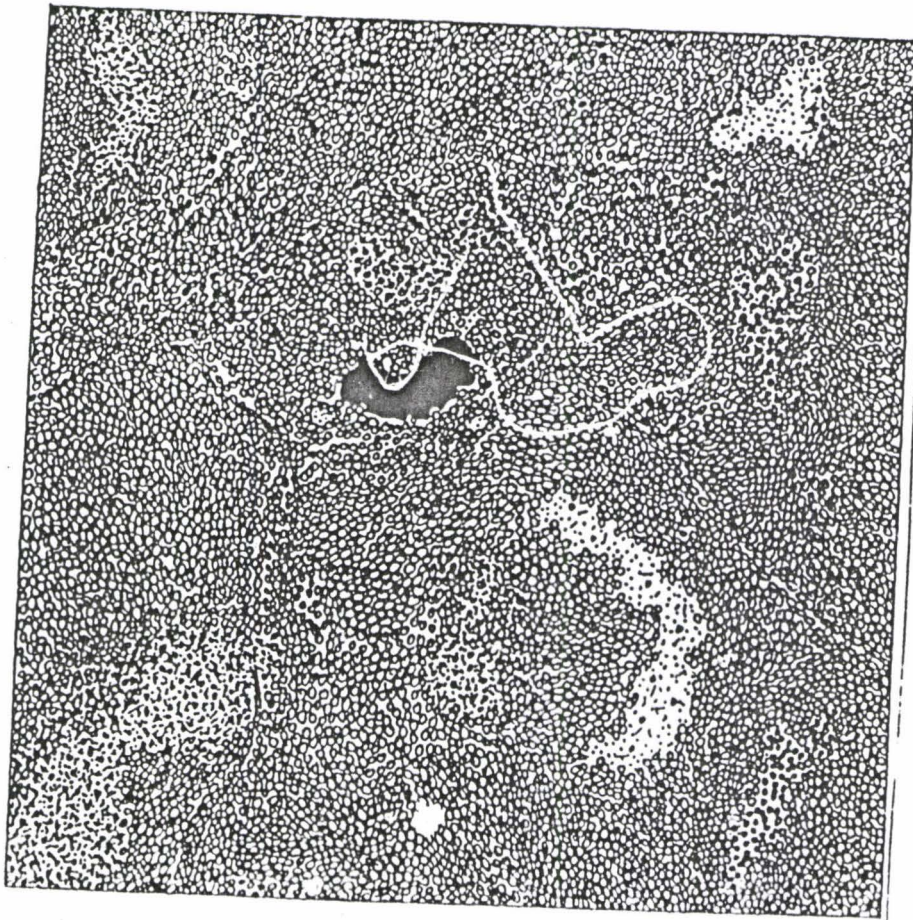


Figure B-03

OVERVIEW OF EXAMPLE AREA



Note that considerable alteration has taken place over time on 875 of these acres which is now considered in visual condition "retention". This is consistent with field checks on the forest which concluded the following:

- A clearcut stand will be in visual condition "modification" for three to five years following cutting. It will then recover to visual condition "partial retention". Approximately 15 years after cutting it will have recovered to visual condition "retention", and again appear natural and unaltered to the average forest visitor.
- A stand which is shelterwood cut will be in visual condition "partial retention" for approximately 15 years before returning to visual condition "retention".
- Stands which are simply thinned will remain in visual condition "retention". This means that the occasional appearance of a cut alteration to the average forest visitor.

Primitive recreation opportunities appear completely natural and unchanged by humans. Alterations that exist are not apparent acts of man. Examples would be trails and campsites.

The viewer sensitivity level in primitive is high. Visual conditions on site, within one-half mile, will be up to one percent of the travel corridor in retention and at least 99 percent of the travel corridor in preservation. All area outside of the travel corridor will be preservation. Visual conditions when viewed from offsite, more than one-half mile, will appear natural and unchanged by humans (retention).

Semi-primitive recreation opportunities have alterations which are evident as works of man but are subordinate to the natural surroundings. Examples of these alterations would be the travelway system, trails and administrative access roads, recreation developments, and wildlife management activities.

The viewer sensitivity level in semi-primitive ranges from moderate to high. The high sensitivity areas included the two wildernesses, the Appalachian-Long Trail, and high level recreation attractors. High sensitivity areas will have on site visual conditions of up to four percent of the travel corridor in partial retention and at least 96 percent of the travel corridor will be in retention.

The moderate sensitivity areas include all those not listed as high. Onsite visual conditions will be up to four percent of travel corridor in permanent partial retention, 10 percent in temporary partial retention and at least 90 percent in retention.

Visual conditions when viewed from offsite for both moderate and high viewer sensitivity levels will appear very natural with only occasional evidence of humans. Change will not be evident on the upper parts of more noticeable peaks and ridges (retention). On other locations, change is occasionally noticeable but is subordinate to the naturally appearing surroundings (partial retention).

Management of primitive and semi-primitive recreation opportunities will influence the location, amount, and type of recreation and wildlife activities compatible with the desired visual condition.

B. PEOPLE DENSITY

People density reflects the opportunity for solitude or to socialize. People density also reflects the capacity of an area to support people and recreation activities. The capacity of an area to supply recreation activities is dependent on recreation attractors available and the level of development.

Recreation attractors refer to the physical characteristics of an area which attract and concentrate users. Recreation attractors tend to be site specific values. They include lakes, streams, waterfalls, scenic views, and other landscape features which tend to concentrate activity. The development potential of any recreation opportunity is dependent on the magnitude of individual attractors as well as the number and distribution of these attractors.

The major attractors in the NRA are the Appalachian-Long Trail, the high elevation ponds, and the higher elevation scenic overlooks. All major attractors are located in western portion of the NRA. The concentrations of attractors has resulted in a concentration of users. As a result of this user concentration, we are experiencing resource deterioration in the form of soil compaction, erosion, and loss of vegetative cover.

The level of development refers to the amount of people an area can comfortably support without a deterioration of the physical or social resource. Alterations to the land base could include the density of road and trail networks, the amount of day and overnight recreation facilities, and the amount of support facilities such as parking and signing which are available. (See Table B-02)

Table B-02 - People Density per 1,000 Acres

Few People	PEOPLE DENSITY SPECTRUM Recreation Opportunity				Many People
	Primitive	Semi-Primitive	Roaded Nat.	Rural	
Elements					
On Travelways (roads or trails)	0 to 9	6 to 24	36 to 96	240 to 500	
On Developed Sites (campgrounds, swimsites, etc.)	0 to 17	0 to 30	0 to 2400	60 to 7000	
On Undeveloped Sites	4 to 5	6 to 9	4 to 17	none	
Total	5 to 30	15 to 60	53 to 2500	300 to 7500	

Elements of the level of development vary by recreation opportunity as the amount of opportunity for solitude or socialization vary in each recreation opportunity. Four degrees of development and resulting people distribution are recognized within each recreation opportunity. These are very low, low, moderate, and high.

Figure B-04 illustrates an example of the people density by degree of development in an area in the semi-primitive opportunities.

Figure B-04

EXAMPLE OF PEOPLE DENSITY BY DEGREE OF DEVELOPMENT ON 1000 ACRES OF SEMI-PRIMITIVE LANDS

PAQT. = PEOPLE AT ONE TIME

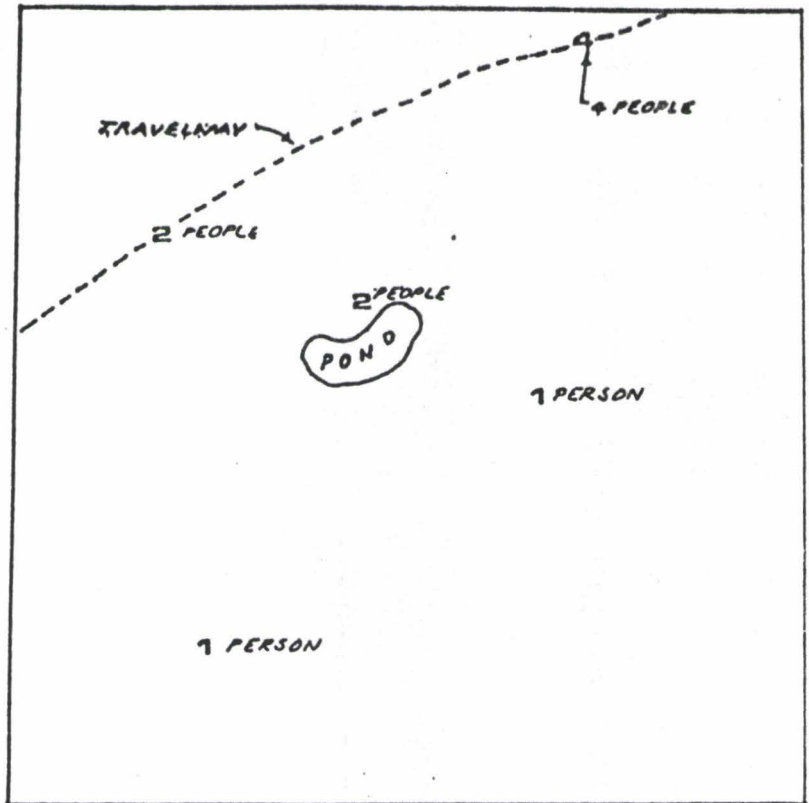
VERY LOW

6 PAQT. ON ONE MILE
OF TRAVEL CORRIDOR

NO DEVELOPED SITES

4 PAQT. ON UNDEVELOPED
AREAS

10 PAQT. TOTAL



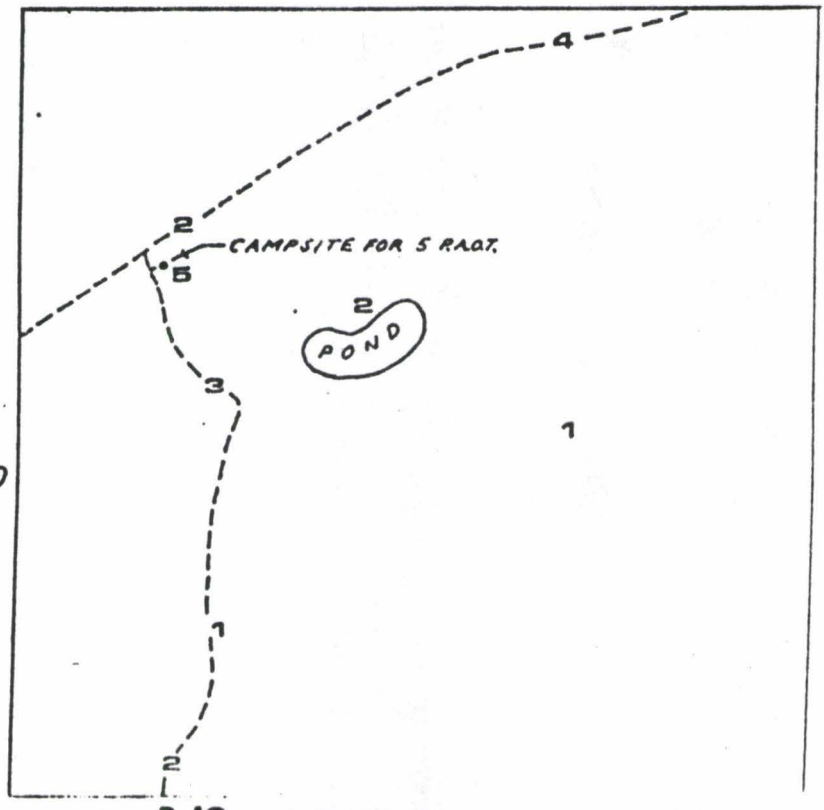
LOW

12 PAQT. ON TWO MILES
OF TRAVEL CORRIDOR

4 PAQT. ON DEVELOPED
SITES

4 PAQT. ON UNDEVELOPED
AREAS.

20 PAQT. TOTAL



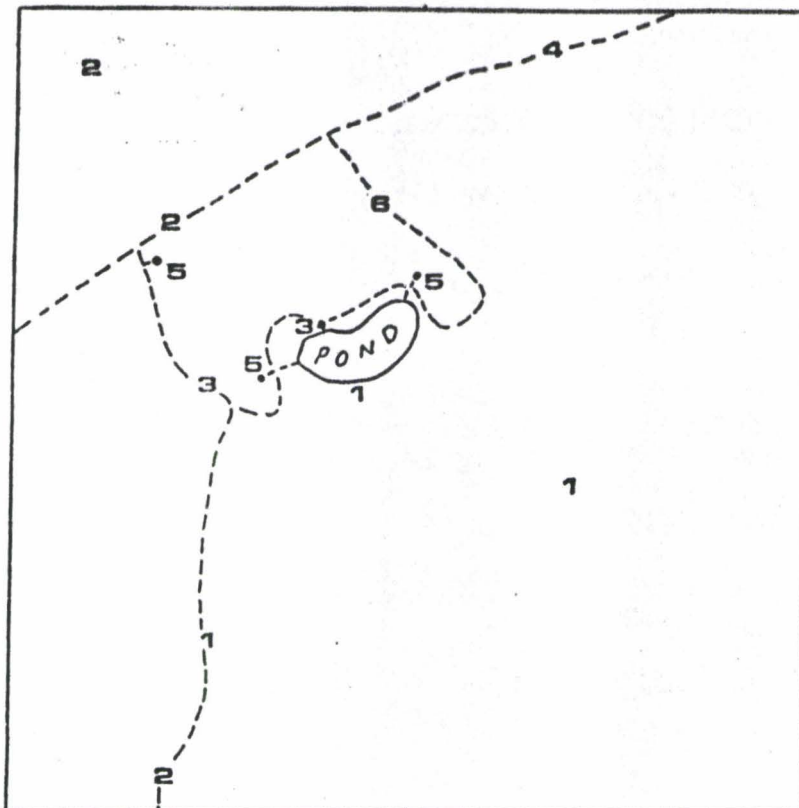
MODERATE

18 PAQT. ON THREE MILES
OF TRAVEL CORRIDOR

18 P.A.O.T. ON DEVELOPED
SITES

4 P.A.O.T. ON
UNDEVELOPED AREAS

40 P.A.O.T. TOTAL



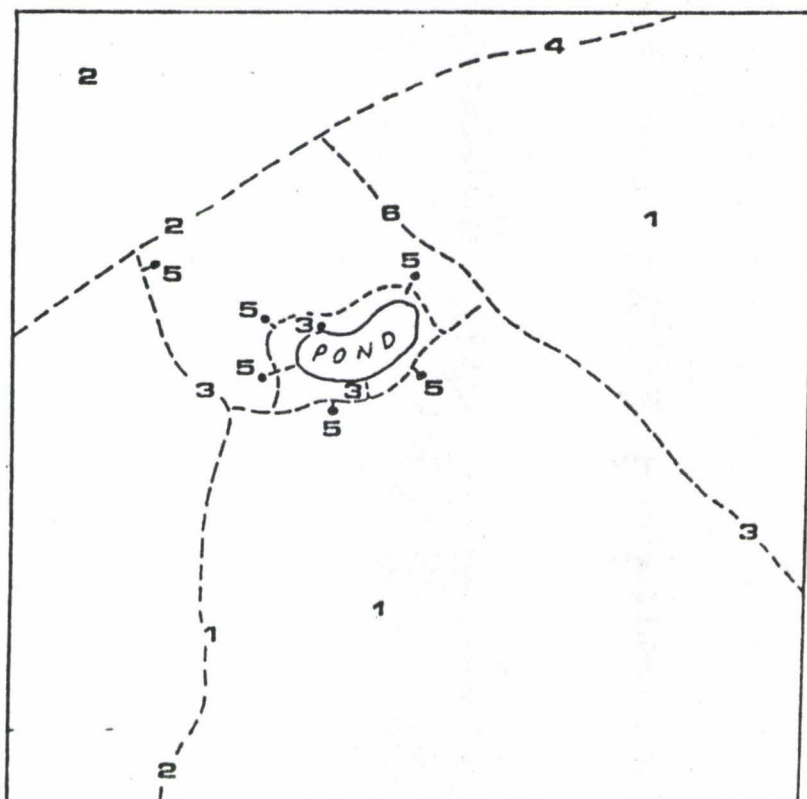
HIGH

24 P.A.O.T. ON FOUR MILES
OF TRAVEL CORRIDOR

52 RAD.T. ON DEVELOPED SITES

4 P.A.O.T. ON
UNDEVELOPED AREAS

60 P.A.O.T. TOTAL



As discussed later in the recreation activity spectrum section, the managed recreation opportunities in the NRA varies by the summer and winter seasons. We therefore need to look at the capacity of the NRA to support various recreation activities by these seasons.

1. Summer

PL 98-322 directs that the NRA be managed for primitive and semi-primitive non-motorized recreation opportunities during the summer period. The current capacity of the NRA to support these recreation activities is very low.

All of the trail capacity exists in the western one third of the NRA. The trail concentration results in user concentrations. This user concentration is causing resource deterioration and a high level of user contacts.

Few loop trail opportunities exist. All overnight and parking facilities are associated with the Appalachian-Long Trail.

The current level of facilities is adequate to handle the trail system in place. Current use of the NRA is predominantly day use and creates high levels of user contacts along the edge of the area. Attempts to increase overnight use would create higher user concentrations and contacts at overnight facilities.

2. Winter

Winter recreation opportunities are semi-primitive motorized. The current capacity of the NRA to support these recreation activities is moderate.

The trail system provides good access to all non-wilderness acres and provides numerous loop opportunities.

None of the winter parking areas are within or adjacent to the NRA. Because of their distance from the winter trail system, winter parking areas only serve motorized uses. The current distribution of parking only serves the south and southwest portions of the NRA.

Winter parking capacity is 20% of trail capacity. Parking areas are full most weekends. Parking also takes place along state highways and town roads around the NRA. This has raised the issue of public safety for area users as well as the impact on landowners where parking is taking place.

3. Demand

Forestwide, summer and winter use peaked in the early 1970's. A sharp decline in use was noted during the energy shortage years of the mid 1970's. Summer use leveled out in the late 1970's and has remained constant to slightly increasing in the early 1980's. Winter use has remained constant to slightly declining. Winter use is directly tied to the winter snowfalls.

Figure B-05

RECREATION SYSTEM LINKAGE

FOREST MANAGEMENT OPTION	POTENTIAL RECREATION OPPORTUNITY	POTENTIAL DEGREE OF DEVELOPMENT	MANAGED CAPACITY	(EXPECTED USE) REALISTIC CAPACITY	RECREATION USE
1.1	PRIMITIVE	VERY LOW	MEASURED IN PEOPLE AT ONE TIME DAYS (PAOT DAYS)	BASED ON THEORETIC CAPACITY TEMPERED BY REALITY.	BASED ON ACTUAL COUNTS or ESTIMATES.
1.2		LOW	IT REPRESENTS THE COST OF PROVIDING THE OPPORTUNITY.	MEASURED IN RECREATION VISITOR DAYS (RVD'S)	MEASURED IN (RVD'S)
2.1	SEMI-PRIMITIVE	MODERATE	IT IS CALCULATED BY THE MAXIMUM NUMBER OF PEOPLE AT ONE TIME MULTIPLIED BY THE NUMBER OF DAYS IN THE MANAGED USE SEASON	AN RVD IS 12 HOURS OF RECREATION USE.	USE WHICH EXCEEDS REALISTIC CAPACITY INDICATES POSSIBLE DETERIORATION OF THE DESIRED OPPORTUNITY OR RESOURCE DAMAGE.
3.1		HIGH		REALISTIC CAPACITY CONSIDERS VARIATIONS IN USE DUE TO WEATHER, SEASONS OF THE YEAR, AND TYPES OF ACTIVITY INVOLVED.	
4.1	ROADED NATURAL	HIGHER DEGREES OF DEVELOPMENT REQUIRE LANDS HAVING STRONG ACTIVITY ATTRACTORS.	MANAGED CAPACITY IS BASED ON THE RECREATION OPPORTUNITY AND THE DEGREE OF DEVELOPMENT.		
5.1					
6.1	RURAL	ACTIVITY ATTRACTORS INCLUDE SUCH AS LAKES, STREAMS, AND SCENERY.			
6.2					
7.1	URBAN				
8.1					
9.1					
FOREST STANDARDS AND GUIDELINES SPECIFY QUALITY AND QUANTITY WHICH ESTABLISH THE COST OF PROVIDING AN OPPORTUNITY.					
USE WILL BE MEASURED IN TERMS OF: • BIG GAME HUNTING • SMALL GAME HUNTING • NON-GAME ACTIVITY • FISHING • OTHER RECREATION ACTIVITIES EACH USE HAS BEEN ASSIGNED DOLLAR VALUES.					

Demands for primitive and semi-primitive activities are expected to increase. Even with a forestwide emphasis toward primitive and semi-primitive management, the Forest will be hard pressed to meet future demands for semi-primitive recreation. The NRA can be expected to receive a major portion of this demand due to the high national profile resulting from its Congressional designation.

Figure B-05 shows the relationship of recreation opportunity and level of development to our ability to meet demand. As noted earlier, the potential level of development within each recreation opportunity is dependent upon the amount, type, and location of recreation attractors. If sufficient attractors are available, each recreation opportunity can be developed to its potential by changing the amount of roads, trails, campsites or other facilities and therefore influence the area's capacity to comfortably hold people.

Based upon available recreation attractors in the NRA, the primitive acres can be raised to a high level and the semi-primitive acres can be raised to the moderate level of development.

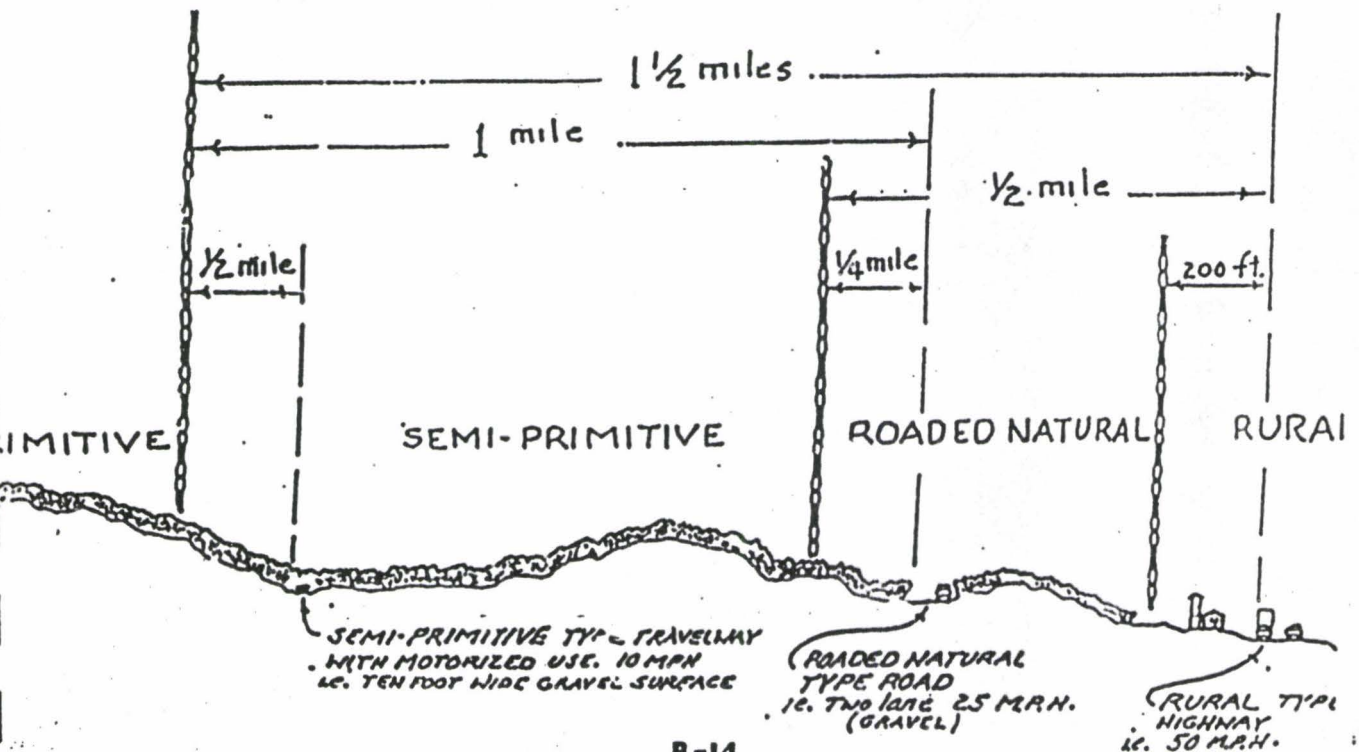
C. Distance from Human Activity

Distance from human activity refers to the opportunity or remoteness. Remoteness is a function of the actual and perceived distance from the sights, sounds, and smells of a man-made urban environment.

The dominant role roads have in determining remoteness is illustrated in Figure B-06.

Figure B-06

DISTANCE STANDARDS
(Sketch is not to Scale)



We are not able to expand the existing amount of either primitive or semi-primitive recreation areas in the NRA due to the permanent road system and its effect on remoteness. The exterior of the NRA is surrounded by a network of state and local roads. Some 14 miles of interior roads are directed to be kept open for public access as per PL 98-322. Only 3,300 acres are far enough from roads to provide primitive recreation opportunities. 28,000 acres are far enough to provide semi-primitive recreation opportunities.

D. SIZE OF AREA

The size of the area reflects the opportunity to experience the vastness of nature which is essential to primitive and semi-primitive recreation opportunities.

An ideal opportunity is at least 5,000 consolidated acres, and a semi-primitive opportunity is at least 2,500 acres. These acreage standards mean very little unless their relative locations and shapes are considered. For example, 5,000 acres of primitive surrounded by 2,500 acres of semi-primitive may provide a rather poor primitive experience. Whereas only 2,500 acres of primitive surrounded by 10,000 acres of semi-primitive may yield a much better primitive experience.

The 3,300 acres of primitive recreation opportunities lie in two separate locations. Neither of the primitive opportunities are large enough to offer a primitive experience. The primitive opportunities are buffered by the 28,000 acres of semi-primitive opportunities. Therefore, even though we have a limited primitive opportunity potential, we are able to provide some primitive opportunity due to the substantial buffer of semi-primitive opportunity.

E. RECREATION ACTIVITY SPECTRUM

Activity characterization reflects the opportunity to pursue specific recreation activities. Activity characterization is influenced by the recreation and non-recreation activities of users.

Non-motorized recreational activities conducted at a low intensity level and generally quiet in nature can be expected in the primitive recreation opportunity. Some examples are viewing scenery, hiking, tent camping, hunting, swimming, fishing, cross-country skiing, or snowshoeing. Non-recreation activities are not found.

Semi-primitive recreation opportunities contain both motorized and non-motorized activities. Activities include both recreational and non-recreational categories.

Recreation activities are generally found in the primitive opportunity conducted at a greater level of intensity. Non-recreational activities include fuelwood gathering and wildlife habitat improvement.

Managed opportunities may vary by seasons. For example, lands managed as semi-primitive non-motorized in warmer months may be opened to snowmobiles in winter.

Opportunities may also vary by seasonal changes in remoteness and visual condition. For example, an area may provide a roaded natural opportunity in the summer. If roads are not plowed, remoteness and visual condition may change to the point that semi-primitive opportunities are available in the winter.

The NRA can be managed for primitive and semi-primitive non-motorized use for the summer months. This is a result of the restrictions on public motorized use during the summer season. The level of winter snowmobile use on the non-wilderness portions of the NRA result in a semi-primitive motorized winter situation for these areas.

The different seasonal opportunity emphasis does not present a problem. Users are separated by time, and facilities created can support both motorized and non-motorized uses. For example, winter parking and snowmobile trails could also be used as summer parking and hiking or horse trails.

II. WILDERNESS

Applying the criteria used in the Recreation Opportunity Spectrum Users Guide (Forest Service publication) and further refined in Recreation/ Visual Resource on the Green Mountain National Forest (Larsen, Pramuk, 1983), the Wildernesses could provide semi-primitive recreation opportunities. Remoteness from permanent roads is the greatest barrier to providing a primitive recreation opportunity. The areas will be managed for semi-primitive non-motorized recreation opportunities as per Forest Service manual direction.

The Appalachian-Long Trail and its system of overnight facilities are the only developments in the two Wildernesses. Both areas are at the very low level of development. Lost Pond Bog, and Big and Little Mud Ponds are special areas located in the Wildernesses.

Dispersement, encounters, and physical resource problems along the Appalachian-Long Trail and other special areas have been discussed in detail. Dealing with these management problems in a Wilderness environment further complicates their resolution.

The current reported use of Wildernesses on the Forest is very low, less than five percent of their theoretical capacity. Therefore, there is no need to consider alternatives for changing the current level of development in the Wildernesses. Problems noted in the current condition of the Wilderness resource will be dealt with by non-wilderness alternatives. Monitoring of the physical and social resources will assure that management objectives for Wilderness are being achieved. If the Wilderness demand situation should change, the preferred alternative will be selected to provide the resource manager with a great deal of latitude to respond to those changes.

III. MOTORIZED ACCESS

Public Law 98-322 is very specific with regard to the location and type of motorized access to be allowed within the non-wilderness portions of the NRA.

Summer use of all vehicles is permitted only on those forest roads listed as being open in the law and designated on the official Congressional map of the NRA. These are Forest Roads 10, 20, 30 to Lake Brook, 31, 60, 253, and 301. This amounts to 14 miles.

Winter use is allowed along roads, trails, and on ponds where that use was authorized prior to the designation of the NRA. There were 76.5 miles of winter trail authorized at the time the NRA was established.

Fourteen and a half miles of the winter system must be eliminated as it either lies within Wilderness or is in a location which causes resource problems. Congressional intent was that the level of winter trails remain, so we can consider replacing this trail mileage in non-wilderness portions of the NRA should the situation warrant it. Items to be evaluated in the replacement of winter trails will be how well the system's capacity is responding to current and projected use. Particular attention will be directed to impacts on the physical and social resources of the NRA.

Boats with motors are prohibited from all lakes and ponds in the NRA as per direction in congressional report language.

IV. DEEP WOODS SPECIES

Wildlife management in the NRA will emphasize providing habitat for "deep woods" species such as bobcat, bear, fisher, pileated woodpecker, and four toed salamander. These species require large tracts of land because they have large home ranges. They are also sensitive to disturbance.

Bobcat and fisher have similar prey base in that they eat small mammals such as rodents, squirrels, and snowshoe hare and deer carrion. Bobcat are known to occasionally kill young deer during the winter. Porcupine are also a part of the fisher prey base. Bobcat and fisher also require mixed forest for cover and protection from severe winter weather and deep snow.

Bear require temporary and permanent openings for browse, grubbing for insects, grazing and for soft mast. They also require mature hardwoods for the beech mast associated with them.

Management for these deep woods species require providing prey base habitat and other food found in early successional vegetation while minimizing the level of disturbance to the area.

The Vermont Department of Fish and Wildlife has developed a habitat suitability model for bobcat. The model is based upon the Habitat Evaluation Procedure (HEP) developed by the U.S. Fish and Wildlife Service. HEP is a nationally recognized system used to evaluate habitats for specific wildlife species. The procedure used for the NRA is adapted from a model developed by the Maine Department of Fish and Wildlife.

The model determines a Habitat Suitability Index (HSI) for bobcat. The Index is a numerical value from zero to one with one being the highest value. The Habitat Suitability Index Model for bobcat has two major components, cover and food.

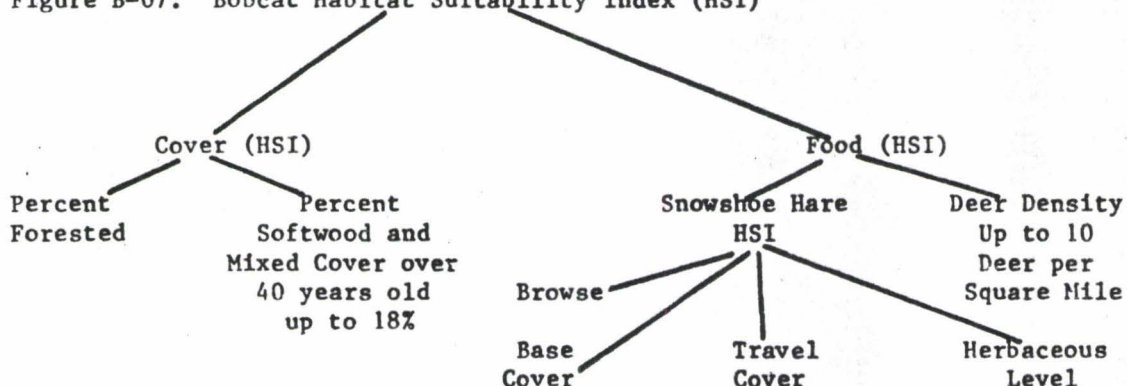
Cover is measured as percent forested with 100 percent given value of one. The percent of the area in softwoods or mixed forest over 40 years is also measured as it provides vital winter cover.

Food habitat suitability has two components, snowshoe hare habitat and deer density. Snowshoe hare habitat suitability as reflected in a model developed by the Vermont Department of Fish and Wildlife for managing snowshoe hare. The model has four components, browse, base cover, travel cover and herbaceous vegetation. The snowshoe hare model is described in further detail in the analysis of the alternatives.

Deer density is given a numerical value with 10 deer per square mile being optimal and given a HSI value of one. Lands suitable for more than 10 deer per square mile are considered too open for bobcats and have less value.

The relationship of the Bobcat Habitat Suitability Model is described in Figure B-07.

Figure B-07. Bobcat Habitat Suitability Index (HSI)



The following is the Habitat Suitability Index (HSI) for bobcat for the current condition in the NRA. The highest possible value is one (1.0).

Snowshoe Hare HSI	.065
Deer HSI	.73
Food HSI	.40
Cover HSI	.68
Bobcat HSI	.52

This illustrates that snowshoe hare prey base is a limiting factor for bobcat in the NRA.

Values for suitability as fisher habitat should be similar as they have similar habitat needs as bobcat for cover and prey base.

V. VEGETATIVE COMPOSITION

The current vegetative composition of the White Rocks National Recreation Area is shown in Table B-03.

Table B-03. Vegetative Composition

Vegetative Type	Acres	Percent of NRA
N. Hardwoods	28,997	79.7
Softwoods	3,058	8.4
Mixed	491	1.3
Pioneer		
Pioneer Birch	2,629	7.2
Oak	37	0.1
Openland	323	0.9
Beaver Ponds/Wetlands	731	2.0
Open Water, Ponds & Lakes	134	0.4
Total	36,400	100

A. OPENLANDS

Existing permanent openings in the White Rocks NRA are old fields abandoned earlier in the century. The vegetation on these areas ranges from grasses and forbs to woody brush, to young hardwoods. Lowland brush, mostly alder, occurs on about 50 acres of openings. Most openings have apple trees scattered throughout, and apple trees also occur in wooded areas near roads. Of the 323 acres of openings in the NRA, 312 are located in the non-wilderness portion.

Openings have historically been maintained through periodic treatments by prescribed fire, mowing, hand tools, and small timber sales to reduce woody vegetation and push back succession. Apple trees have been released using crews with hand tools and through firewood sales.

Recent and active timber sales will result in approximately 479 acres of clearcuts less than five years old in the non-wilderness portion of the NRA. These may be treated with prescribed burning to create permanent openings.

B. PIONEER

Most pioneer vegetation has been managed to encourage aspen because many wildlife species use this vegetative community. These areas are managed on a 40-year rotation to provide productive grouse habitat. Four age classes, at ten-year intervals are managed together.

There are approximately 1,587 acres with good potential for aspen management. These are mostly northern hardwoods or paper birch with aspen present. Of these, 388 acres are inaccessible for management due to slope or distance from roads.

Portions of clearcuts may also be converted to aspen as a part of prescribed burning to maintain openland.

Age-Class Distribution of Potential Aspen Areas

Age Class	<u>0-9</u>	<u>10-39</u>	<u>40-79</u>	<u>80+</u>	<u>Total</u>
Acres	13	355	539	680	1,587

C. WETLANDS

There are 731 acres of wetlands in the NRA. Most of these are beaver ponds. Surveys taken during 1983 showed that about 59% of beaver ponds on the Manchester Ranger District are active. Beaver ponds in the NRA show similar utilization.

Many beaver ponds in the NRA have wood duck boxes on them. These were placed along wetlands and maintained annually to improve nesting habitat for wood ducks. Wetlands have also been burned periodically to reduce thatch. Studies have shown that the renewed growth of vegetation after burning is more productive wildlife habitat and is used by greater numbers of species. Wetland plants were also planted to improve food and cover, and small clearcuts, up to four acres, have been placed along the edge of wetlands to improve food supplies for beaver.

D. EDGE SPECIES

A summary of the edge species habitat in the NRA is as follows:

	<u>Acres</u>	<u>Percent of NRA</u>
Permanent Openland	323	.9
Aspen	0	0
Temporary Openings		
Hardwood Browse Less than 10 yrs old	508	1.4
Softwood and Mixed Less than 10 yrs old	145	.4
Wetlands	731	2.0
Softwoods Less than 40 yrs old	243	.7

E. DEER WINTER AREAS

There are several deer wintering areas within the White Rocks NRA. Most are a combination of softwood, mixed stands and northern hardwoods.

The distribution of these areas is as follows:

Wilderness	670 Acres
Non-Wilderness Accessible for Management	1,420 Acres
Inaccessible	<u>1,075 Acres</u>
Total	3,165 Acres

Included in the 1,420 acres of accessible deer winter habitat are 130 acres of wetlands and openings. The remaining 1,290 could be managed to increase or maintain softwood cover. These areas currently receive light to moderate use by deer.

Deer wintering areas have historically been managed to improve and maintain softwood cover to provide six acres of winter cover per deer. Much of this was accomplished using commercial timber sales. Various silvicultural treatments have been applied including selective cutting and small clearcuts. Softwoods were planted to supplement natural regeneration. Hardwood patches adjacent to deer wintering areas have been clearcut to provide browse.

F. SNOWSHOE HARE HABITAT

The current distribution of snowshoe hare habitat and resulting Habitat Suitability Index is as follows:

	Acres	<u>Percent of NRA</u>
Browse Hardwood & Softwood	653	1.8
Base Cover	153	.4
Travel Cover	767	2.1
Herbaceous	323	.9
Total Snowshoe Hare Habitat	1,896	5.2
Habitat Suitability Index for Snowshoe Hare - .065		

G. HARDWOOD BROWSE

The amount of hardwood browse less than ten years old in the NRA is 438 acres and is the result of past regeneration treatments through commercial timber sales.

VI. OTHER SPECIAL AREAS

Several special areas were identified in the Forest Land Management process. These areas have been discussed earlier and standards and guide- lines have been developed to protect the special characteristics of these areas. Several of these special areas are found in the NRA. They include: the Appalachian-Long Trail, White Rocks Cliffs and Ice Beds, Lost Pond Bog, and several remote or high elevation ponds.

A. APPALACHIAN-LONG TRAIL

The Appalachian Trail, which extends from the State of Georgia to the State of Maine, was designated a National Scenic Trail by Public Law 90-543 on October 2, 1968. The Long Trail, which extends from the Vermont-Massachusetts border to Canada, is a locally significant hiking trail. Both trails pass through the western portion of the NRA on a common trail corridor.

The trail is the only designated and managed hiking trail in the NRA so it receives virtually all hiking use. Dispersion, encounter, and resource deterioration problems have been discussed earlier. Additional summer hiking pressure will further compound existing use problems.

B. WHITE ROCKS CLIFFS AND ICE BEDS

White Rocks Cliffs are steeply inclined thick beds of exposed quartzite rock. Bolder caves at the bottom of the cliffs hold the previous winter's ice for most of the summer and create a very cool micro-climate. The Appalachian Trail passes near the top of White Rocks and a side trail to the cliffs attracts many hikers to enjoy the spectacular views. The ice beds attract many day hikers to the cliffs, some of whom attempt to scale the cliffs to enjoy better views. Both of these activities pose problems with the management of the Peregrine Falcon hacking site on the upper cliffs area.

C. LOST POND BOG

Lost Pond is an open bog and heath plant community. It is a pond "dying" from natural cycles of vegetative growth, decay, and buildup. The pond represents an uncommon example of a water body in the late stages of eutrophication. The pond can be reached by an unmarked side trail from the Appalachian Trail. The pond attracts people from the scientific community who come to study the bog and associated plant communities. Use is impacting the pond and associated plant communities. The shoreline has become compacted in some places from heavy use and a number of plants are being lost to trampling and picking.

D. HIGH ELEVATION PONDS

Five high elevation ponds are included in the area. These ponds are: Griffith Lake, Little Rock Pond, Big and Little Mud Ponds and Wallingford Pond.

Both Griffith Lake and Little Rock Pond are popular overnight destinations for hikers along the Appalachian-Long Trail, as well as popular destinations for day hikers. During the 1970's, use at these ponds reached a point of serious resource degradation. Overuse and indiscriminate camping had caused soil compaction, erosion, loss of ground vegetation, and some loss of overhead vegetation. Measures were instituted to control and limit use. Shelters were removed from the immediate area of the ponds. Campsites were consolidated and sites reinforced. Overnight use limits were enforced and on-site caretakers were utilized during the peak season. These measures and a decline in hiking use through the 70's and early 80's has stabilized the resource conditions at the ponds.

Most of the Wallingford Pond and Big and Little Mud Pond's use comes from fishing and associated camping.

APPENDIX C

Process Used to Develop Plan

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I. PLANNING PROCESS

In order to develop a comprehensive management plan for White Rocks National Recreation Area (NRA) the following planning process was developed:

- a. Identify issues, concerns and opportunities
- b. Develop selection criteria for preferred alternative
- c. Collect data on current and expected conditions
- d. Situation Assessment
 - Describe current and expected future conditions as they relate to major issues, concerns, and opportunities
 - Identify resource data deficiencies.
- e. Formulate Alternative
 - Develop a range of alternative management strategies to respond to major issues, concerns, and opportunities.
- f. Evaluate Alternative Management Strategies
 - Estimate effects against major issues, concerns, and opportunities
 - Evaluate against selection criteria.
- g. Identify preferred alternative and prepare draft plan.

Early in the planning process we asked a small group of people (Core Group) to help us develop the NRA plan. They were people who had worked with the Vermont Congressional Delegation in developing the Vermont Wilderness Bill which established the NRA.

The group included representatives from local chapters of national environmental organizations, three local forest user groups, two Vermont State Representatives, the State Planning Office, and the Vermont Fish and Game Department. The group was a valuable source of public input and helped clarify Congressional intent. See Appendix D for a list of Core Group members.

A. APPROACH

1. Issues And Concerns

Early in the NRA planning process, people interested in the White Rocks Area had identified several issues to be addressed. The legislative process, the Land Management Planning process, core group meetings, and other public surfaced issues. National Forest employees expressed concerns they had regarding the management of the NRA.

The issues and concerns noted were:

- Location and/or intensity of management activities,
- Availability of biological evidence to guide management of deep woods species,
- Quality of habitat available for deep woods species,
- Management of deer wintering areas,
- Effective road closures to insure resource protection and management efficiency while meeting public access needs,
- Control of overuse and abusive recreation use that impacts other users and resources,
- Protection of special areas from overuse and resource deterioration.

2. Selection Criteria

The following selection criteria were developed to assist in formulating and evaluating alternative management strategies:

Meet Direction of Congress

Throughout the study and passage of Wilderness and National Recreation Area legislation, Congress provided direction for the ultimate management of these areas. All alternatives must meet the intent of this direction as well as all applicable Federal, State, and local laws and regulations.

Ecologically Sound

Any attempt to manage the area for future users must assure survival of the ecosystem. We recognize that we cannot manage for sustained yield of individual elements of the ecosystem without sustaining the system itself.

Practical and Economically Feasible

Service-wide recreation and wildlife management budgets have been decreasing in recent years. This trend can be expected to continue. The best management alternatives should be feasible in light of current and projected budgets.

Acceptable to Interested Publics

The best management alternative should have a high level of acceptance by State and local governments and other interested people. Public comments prior to and following issuance of draft documents will indicate levels of acceptance and help determine the best management alternative.

B. ASSESSING CURRENT STATUS OF RESOURCES

The time frames imposed by PL 98-322 dictated that the assessment of the resources of the NRA be done with data currently available. Large amounts of resource data on the NRA were found to be in existence. The Forest Planning Process had developed resource data bases on the area as well as various resource situation papers. District resource files proved a valuable source of detailed information on the area.

Local user groups, interest groups, and core group members proved to be a valuable source of on-the-ground information. The State of Vermont Recreation and Fish and Wildlife Departments assisted with information and assessments by their resource specialists. (See Appendix D)

1. Assessing The Wildlife Resource

The Habitat Evaluation Procedure (HEP) was used to evaluate the wildlife resource in the NRA. The system was developed by the U. S. Fish and Wildlife Service to evaluate various wildlife habitats in the New England area. Forest wildlife biologists worked with biologists from the State of Vermont Fish and Game Department to more accurately reflect values in the NRA.

The system proved valuable in not only assessing the current suitability of wildlife habitat for the identified deep woods and edge species, but also allowed the Forest to develop long-term vegetative composition objectives for the NRA.

2. Assessing The Recreation Resource

The Forest used the inventory system described in Recreation/Visual Resource on the Green Mountain National Forest (1983) to evaluate the recreation and visual resources in the NRA. The inventory system integrates and refines three established systems into one. The three systems used were:

- . Recreation Input to Land Management Planning (FSH 1902.12, Chapter 500)
- . The Visual Management System (USFA Handbook '62)
- . The Green Mountain National Forest Recreation Management Plan (1978).

From these systems, five measurable inventory items were identified. The first is the visual condition which reflects how natural the environment appears. The second is people density which reflects the opportunity for solitude or to socialize. Distance from human activity is the third and reflects the opportunity for remoteness. The fourth is the size of area which reflects the opportunity to experience the vastness of nature. Finally, activity characterization reflects the opportunity to pursue specific recreation activities.

The Forest used this system to:

- Inventory existing values and opportunities
- Inventory potential values and opportunities
- Identify value impacts and conflicts
- Identify alternative opportunities
- Direct management of the selected alternative
- Monitor and evaluate resource impacts and success of management objectives.

The system proved valuable as it was able to work with the level of data available, was understandable to resource managers and interested publics, and had a high level of public acceptance.

See Appendix B for a more detailed description of the systems used and the results obtained.

C. DEVELOPMENT OF MANAGEMENT ALTERNATIVES

A range of alternative management strategies was developed to respond to the major issues and concerns.

Meetings with the core group and other groups such as the Green Mountain Club, the Vermont Association of Snow Travelers, and individuals familiar with the area help develop the range of alternatives. The range reflects minimum management a low, moderate, and high intensity of development. See Appendix C, Section II for a detailed description of management alternatives considered.

D. COMPARISON OF MANAGEMENT ALTERNATIVES

Management alternatives were compared in terms of how well they addressed the specific issues and concerns identified. In the development of issues and concerns, specific elements of a problem were identified as being key to mitigating or resolving the problem. There elements are:

- Capacity for primitive and semi-primitive recreation opportunities
- Parking capacity
- People distribution
- Vegetative composition
- Bobcat and fisher habitat
- Snowshoe hare habitat
- Bear habitat
- Edge species habitat

Alternatives were compared in terms of the total number of problems they were able to resolve, the degree to which problems were resolved, as well as the latitude each alternative offered for future management.

Tables C-01 and C-02 summarize alternatives considered and their various outputs. Appendix C, Section III contains a detailed evaluation of management alternatives.

Table C-01 Summary of Alternatives - Wildlife

	A	B	C	D	Selected
Permanent Openland	No treatments 0 Acres of Permanent Openland	312 Acres Annual Program 10-60 Acres/Year	459 Acres Annual Program 45-90 Acres/Year	558 Acres Annual Program 55-110 Acres/Year	558 Acres Annual Program 55-110 Acres/Year
Pioneer-Aspen Community	No treatments 0 Acres of Aspen Community	400 Acres Annual Program 7 Acres/Year	520 Acres Annual Program 9 Acres/Year	590 Acres Annual Program 10 Acres/Year	590 Acres Annual Program 10 Acres/Year
SOFTWOOD MANAGEMENT					
Deer Wintering Areas	No treatments Annual Program	Winter Surveys Annual Program No treatment 1st Decade: Release 44 Acres of Softwood	Winter Surveys Annual Program Manage 900 Acres of Deer Wintering Areas Annual Program 9 Acres/Year	Winter Surveys Annual Program Manage 1300 Acres of Deer Wintering Areas Annual Program 13 Acres/Year	Winter Surveys Annual Program Manage 1300 Acres of Deer Wintering Areas Annual Program 13 Acres/Year
Snowshoe Hare Habitat Conifer Management Other Than Deer Wintering Areas	No treatments 0 Acres Snowshoe hare habitat	No treatments 0 Acres Snowshoe hare habitat	1,000 Acres Annual Program 10 Acres/Year	2,890 Acres Annual Program 29 Acres/Year	2,639 Acres Annual Program 27 Acres/Year

Table C-01 cont'd Summary of Alternatives - Wildlife

	A	B	C	D	Selected
Hardwood Browse Other Than Aspen	No treatments 0 Acres Hardwood Browse	45 Acres Annual Program 15 Acres Every 3 Years	150 Acres Annual Program 15 Acres/Year	404 Acres Annual Program 41 Acres/Year	300 Acres Annual Program 30 Acres/Year
Wetlands	No treatments	Manage 10% of Wetlands 75 Acres Annual Program 15 Acres/Year	Manage 20% of Wetlands 150 Acres Annual Program 30 Acres/Year	Manage 30% of Wetlands 225 Acres Annual Program 45 Acres/Year	Manage 10% of Wetlands 75 Acres Annual Program 15 Acres/Year
Research	No research	Bobcat	Bobcat and Bear	Bobcat, Bear and Fisher	Bobcat, Bear Fisher and other species, that seek remote areas

Summary of Alternatives - Recreation

		A	B	C	D	Selected
Summer	Trail	No new trails. Appalachian/Long Trail only	Add 10 miles in north and north-west portion	Add 20 miles in in north and northwest portion	Add 30 miles in north, northwest and east portion	Add 10 miles in north and northwest
	Facilities	No new over-night facilities	Add road and trail campsites for 25 more people	Add road and trail campsites for 50 more people	Add road and trail campsites for 80 more people	Add road and trail campsites for 25 more people
	Parking	No new parking areas	Add parking along Forest Roads 20 and 60	Add parking along Forest Roads 10, 20, 30 and 60	Add parking along Forest Roads 10, 17, 20, 30, 31, 58 and 60	Add parking along Forest Roads 20 and 60
Winter	Trails (Snowmobiles)	No new trails. 61 miles of trail outside of Wilderness only	Add 4 miles of connector trails	Add 9 miles of connector trails	Add 15.5 miles of connector trails	No new trails. 61 miles of trail outside Wilderness
	Trails (non-motorized)	No non-motorized trails	Add 5 miles of non-motorized trail	Add 10 miles of non-motorized trail	Add 15 miles of non-motorized trail	Add 10 miles of non-motorized trail
	Parking	Forest Road #10 and Mt. Tabor 24 cars	Expand existing parking to 40 cars	Add parking in Mt. Holly & Weston to total 50 cars	Add parking in Mt. Holly, Weston, and Wallingford Total 65 cars	Add parking in Mt. Holly, Weston, and Wallingford Total 65 cars

II. MANAGEMENT ALTERNATIVES CONSIDERED

A. OBJECTIVES COMMON TO ALL ALTERNATIVES

Public Law 98-322 and the Congressional Record regarding the legislation gave specific resource direction for the management of White Rocks National Recreation Area. The following direction is common to all alternatives.

1. Wildlife

- a. The current level of access by the Vermont Fish and Game Department will be maintained.
- b. The current level of fish stocking will remain.
- c. The entire NRA is open to hunting, fishing and trapping in accord with Federal and State laws.
- d. The peregrine falcon release program will continue.

2. Recreation

- a. The current acreage of primitive and semi-primitive recreation opportunity will remain.
- b. The current amount of "vistas" will be maintained.
- c. The current acreage of Wilderness will be maintained.
- d. The current level of development in Wilderness will be maintained.

3. Access

- a. The current level of snowmobile trails will remain.
- b. All inholders have traditional conventional means of access in accord with current agreement with Forest Service.
- c. No new roads will be constructed.
- d. Wheeled vehicles, including ATV's, four-wheel drives, motorcycles, etc. are limited to those listed as being open by the legislation. These being Forest Roads 10, 20, 30 to Lake Brook, 31, 60, 253 and 301.

4. Minerals

Federally owned lands are withdrawn from all forms of appropriation under the mineral leasing laws, including all laws pertaining to Geothermal leasing, and all amendments thereto.

5. Cultural Resources

Throughout the area there is evidence of man's past use. The value of these cultural resources are determined on a case-by-case basis. Culturally significant sites will be protected, and where possible interpreted, to preserve our heritage for others to see and learn. An inventory of cultural resources will be performed prior to any disturbing activity.

6. Private Rights

Several private rights exist within the area and are covered by special use permits.

a. Water Supply, spring and pipeline on U.S. Tract 35a. Traditional vehicle access via FR #20 to maintain spring and pipeline. Current permittee Wallingford Associates.

b. Water Supply, spring and pipeline on U.S. Tract 35a. Traditional vehicle access via town road and woods road to maintain spring and pipeline. Current permittee is Roland Seward.

c. Cabin on U.S. Tract 10u. Traditional vehicle access via FR #10, and woods road. Current permittee is Edward Landon, Jr.

d. Cabin on U.S. Tract 10x. Traditional vehicle access via FR #10, 30, Lake Brook Trail, and woods road. Current permittee is John N. Nichols.

e. Cabin on U.S. Tract 406. Traditional vehicle access via FR #10, 30 and Lake Brook Trail. Current permittee is Joseph Foley.

7. Protection

a. Fire

Few wildfires occur on this National Forest. The amount of snow and rain and the type of vegetation on this National Forest make it difficult for fires to get started. The fires that do occur burn only a small area. The vegetation burns slowly, allowing fires to be detected and suppressed quickly.

The current level of prevention, detection, and suppression is and will continue to be adequate.

b. Insects and Disease

Populations of gypsy moth, forest tent caterpillar, maple leaf cutter and saddle prominent periodically build up in localized areas. The impact on the annual growth of trees defoliated by these insects may be substantial, but insects seldom kill trees and their effect on total forest growth is insignificant.

The most serious tree diseases on the National Forest are beech bark disease and Armillaria root rot. These diseases have caused a considerable loss of beech and red spruce on the National Forest in the past two decades. Controlling these diseases over a large area is not practical. Infected trees are salvaged where possible. The probability of insect and disease problems on the National Forest will not vary significantly by alternative.

8. Special Areas

All special areas are identified and protected in each management alternative. Appropriate standards and guidelines have been written to protect their uncommon and outstanding characteristics. See Appendix III, C of this plan for more detail.

B. RANGE OF ALTERNATIVES

1. Alternative A - See tables C-01 and C-02 for a comparison of alternatives considered and their various outputs.

This alternative involves managing the area at a minimum level of management.

a. Wildlife

No permanent or temporary openings would be maintained. Openings would be allowed to become forested. Apple tree areas would not be maintained. No aspen would be created or maintained. Aspen which occurs as a component of other forested communities would decline and die off.

Deer wintering areas would not be treated to increase or maintain conifer cover. Snowshoe hare habitat would not be increased or maintained. Hardwood browse would not be created or maintained. Wetlands would not be treated.

No research would be carried out on habitat needs and utilization of bobcat, bear or fisher.

b. Recreation

No new trails, summer or winter, would be constructed. Under this alternative, the Appalachian-Long Trail system would be managed at its existing level in cooperation with the Green Mountain Club. The winter trail system would involve only that portion of the trails that are currently outside of Wilderness. Maintenance of the winter system would be through the VAST organization.

No new overnight facilities would be added. Shelters and tent platforms along the Appalachian-Long Trail system would be maintained in cooperation with the Green Mountain Club. Roadside campsites that have developed through repeated use would not be maintained.

Summer and winter parking would remain at the current level. Parking areas that have developed through repeated use would not be maintained.

2. Alternative B

This alternative involves managing NRA at a low level of intensity.

a. Wildlife

Openings

A total of 312 acres of existing openland would be maintained by treatments on a five to ten year cycle. Treatments would include periodic mowing, prescribed fire, hand debrushing, crews with chain saws, and small sales to remove encroaching trees. Temporary openings from previous clearcuts would be allowed to become forested on 479 acres. Apple trees overtopped by trees would be released using crews with chain saws and firewood sales.

The long-range objective is to treat 30 to 60 acres each year.

Aspen

Aspen would be managed for on 400 acres. Areas averaging 10 to 20 acres would be treated using small sales to increase the aspen component in stands. Most of these areas would be near roads or wetlands. Patches of 2.5 to 5 acres would be treated after aspen has become established to provide a mosaic of sizes and ages of aspen up to 60 years old. The long-range objective is to treat 7 acres per year to maintain aspen.

Deer Wintering Areas

Intensive winter surveys of deer wintering areas would be carried out to develop long-range management plans. Planted softwoods on 44 acres of Wallingford Pond South deer wintering area would be released mechanically using hand tools. Deer wintering areas would be checked every three to five years to determine long-term trends. No treatments would be done during the first decade.

Snowshoe Hare

No snowshoe hare habitat would be developed or maintained.

Hardwood Browse

Forty-five acres of hardwood browse less than 10 years old would be maintained in narrow, irregular-shaped patches up to five acres each. The objective is to treat 15 acres every three years.

Wetlands

Ten percent, or about 75 acres of wetlands in the non-wilderness portion of the NRA would be treated. Wetlands would be burned once every five years to reduce thatch. Patches of conifers and large hardwoods, up to four acres each, would be removed along riparian areas of beaver ponds to improve food sources for beaver. Fifteen acres of wetlands would be treated each year.

Research

Telemetry research would be done on bobcat to determine habitat utilization and needs. Most intensive surveys would be during first decade.

b. Recreation

The summer trail system would be expanded into the north and northwest sections of the NRA. The current transportation system would be used as the base for the summer system expansion. The winter trail system would be slightly expanded on non-wilderness areas.

Summer roadside and trail overnight facilities would be expanded. Roadside facilities would include off-road parking, cleared tenting area, and native stove fireplaces. Trail facilities would include native stone firering and a cleared tenting area. Solid waste would be packed out by users to a central disposal site. Toilet and water facilities would only be provided after a review of individual site proposals.

Summer parking facilities would be improved along Forest Roads 20 and 60. This would include spot-filling and graveling to provide off-road parking for up to five cars. Solid waste would be packed out by users to a central disposal site. No toilet or water facilities will be provide.

Winter parking would be expanded by developing winter parking at the Mt. Tabor Supply Depot. Other winter parking will remain at current level.

3. Alternative C

This alternative involves managing the NRA at a moderate level of intensity.

a. Wildlife

Openings

A total of 459 acres of openings would be maintained, of these, 312 acres of existing openland would be treated on a five to ten year basis. Treatments would include periodic mowing, prescribed fire, hand debrising, crews with chain saws, and small sales to remove encroaching trees. Opening on 147 acres of previous clearcuts would be converted from seedlings and saplings to grasses, forbs, and brush and maintained. Temporary openings from previous clearcuts would be allowed to become forested on 332 acres. Apple trees overtopped by trees would be released using crews with chain saws and firewood sales. The long-range objective is to treat 45 to 90 acres of openings each year.

Aspen

Aspen would be managed for on 520 acres. Areas averaging 10 to 20 acres would be converted to aspen by using small sales to increase the aspen component in stands. Aspen would also be increased as a result of burning temporary openings. Patches of 2.5 to 5 acres would be treated after aspen has become established to provide a mosaic of sizes and ages of aspen up to 60 years old. The long-range objective would be to treat 10 acres per year to maintain aspen.

Deer Wintering Areas

Intensive winter surveys of deer winter areas would be carried out to develop long-range management plans. Planted softwoods on 44 acres of Wallingford Pond South deer wintering area would be released mechanically using hand tools. Nine hundred acres of accessible deer winter areas at Ten Kiln Meadow and Fifield Pond would be managed to increase the conifer component and to provide a variety of ages and heights for cover. Methods used would include group selection, regeneration cuts, and release of understory conifers. Areas of conifer saplings would be up to five acres each.

The long-range program would be treat nine acres each year to maintain and increase softwoods and check each deer wintering area every three to five years to determine long-term trends.

Snowshoe Hare

One thousand acres of conifers and mixed forest would be managed primarily for snowshoe hare by increasing and maintaining softwoods up to 100 years old in irregular-shaped, narrow patches up to five acres each. The long-range objective would be to treat 10 acres each year.

Hardwood Browse

Maintain 150 acres of hardwood browse less than 10 years old in narrow, irregular-shaped patches up to five acres each. To accomplish this, 1,800 acres of hardwood would be managed on a 120-year rotation.

Wetlands

Twenty percent, or about 150 acres, of wetlands in the non-wilderness portion of the NRA would be treated. Wetlands would be burned once every five years to reduce thatch. Patches of conifers and large hardwoods, up to four acres each, would be removed along riparian areas of beaver ponds to improve food sources for beaver. The program would treat 30 acres of wetlands each year.

Research

Telemetry research would be done on bobcat and bear to determine habitat utilization and needs. Most intensive surveys would be during first decade.

b. Recreation

The summer trail system would be expanded into the north and northwest sections of the NRA. That portion of the current transportation system not open to public travel would be used as the base for the summer system expansion. The winter trail system would be expanded on non-wilderness areas.

Summer roadside and trail overnight facilities would be expanded. Roadside facilities would be along Forest Roads 10 and 30. Facilities would include off-road parking, cleared tenting area, and native stone fireplace. Trail facilities would include a cleared tenting area and native stone firering. Sites will be identified by signing and map designation. Solid waste would be packed out by users to a central disposal site. Toilet and water facilities would only be provided after a review of individual site proposals.

Summer trailhead facilities would be improved along Forest Roads 17, 20, and 60. This would include spot filling and gravelling to provide off-road parking for up to five cars. Solid waste would be packed out by users to a central disposal site. No toilet or water facilities would be provided.

Existing winter parking facilities at Forest Road 10 in Landgrove would be expanded. Additional winter parking would be developed at Mt. Tabor Supply Depot and the West-Mt. Holly area.

A self-service information site would be established at the Silver Bridge area along Forest Road 10. The facility would be designed to identify the area and to provide visitor information on opportunities within the area.

4. Alternative D

This alternative involves managing the area of the highest practical levels of intensity considering user demands and possible Federal budget levels.

a. Wildlife

Openings

A total of 558 acres of openings would be maintained. Of these, 312 acres of existing openland would be treated every five to ten years. Treatments would include periodic mowing, prescribed fire, hand debrushing, crews with chain saws, and small sales to remove encroaching trees. Openings on 246 acres of existing clearcuts would be converted from seedlings and saplings to grasses, forbs and brush and maintained. Temporary openings on 23 acres of existing clearcuts would be allowed to become forested. Apple trees overtopped by trees would be released using crews with chain saws and firewood sales. The long-range objective would be to treat 55 to 110 acres each year.

Aspen

Aspen would be managed for on 590 acres. Areas averaging 10 to 20 acres would be converted using small sales to increase the aspen component in stands. Most of these areas would be near roads or wetlands. Patches of 2.5 to 5 acres would be treated to provide a mosaic of sizes and ages of aspen up to 60 years old. The long-range objective is to treat 10 acres per year to maintain aspen.

Deer Wintering Areas

Intensive winter surveys of deer wintering areas would be carried out to develop long-range management plans. Planted softwoods on 44 acres of Wallingford Pond South deer wintering area would be released mechanically using hand tools. Manage about 1,300 acres of accessible deer winter areas to increase conifers and to provide a variety of ages and heights for cover. Methods used would include group selection, regeneration cuts, and release understory conifers. Areas of conifer saplings would be up to 5 acres each. The long-range objectives is to treat 13 acres each year to maintain and increase softwoods. Deer wintering area would be checked every three to five years to determine long-term trends.

Snowshoe Hare

2,890 acres of conifers and mixed forest would be managed for snowshoe hare by increasing and maintaining softwoods up to 100 years old in irregular-shaped, narrow patches up to five acres. The objective would be to treat 29 acres each year to maintain young conifers.

Hardwood Browse

404 acres of hardwood browse less than 10 years old would be maintained in narrow, irregular-shaped patches up to five acres each. Hardwoods on 4,040 acres would be managed on a 100 year rotation to accomplish this.

Wetlands

Thirty percent, or about 225 acres, of wetlands in the non-wilderness portion of the NRA would be treated. Wetlands would be burned once every five years to reduce thatch. Patches of conifers and large hardwoods, up to four acres each, would be removed along riparian areas of beaver ponds to improve food sources for beaver. Up to 25% of the edge of ponds would be treated. The program would treat 45 acres of wetlands each year.

Research

Telemetry research would be done on bobcat, bear and fisher to determine habitat utilization and needs. Most intensive surveys would be during first decade.

b. Recreation

The summer trail system would be expanded into the north, northwest, and east sections of the NRA. That portion of current transportation system not open to public travel would be used as the base for the summer system expansion. All winter trails removed from wilderness would be restored on non-wilderness areas.

Summer roadside and trail overnight facilities would be expanded. Roadside facilities would be concentrated along Forest Roads 10 and 30. Facilities would include off-road parking, a cleared tenting area, and native stone firering. Solid waste would be packed out by users to a central disposal site. Toilet and water facilities would only be provided after a review of individual site proposals.

Summer trailhead facilities would be improved along Forest Roads 10, 17, 20, 30, 31, 58, and 60. This would include spot filling and gravelling to provide off-road parking for up to five cars. Solid waste will be packed out by users to a central disposal site. No water or toilet facilities would be provided.

Winter parking along Forest Road 10 in Landgrove would be expanded. Additional parking would be developed at Mt. Tabor Supply Depot, the Weston-Mt Holly area, and the Wallingford area.

Self-service information sites would be established at the Silver Bridge and Devil's Den areas along Forest Road 10. The facility would be designed to identify the area and to provide the visitor with information on opportunities within the area.

III. EVALUATION OF MANAGEMENT ALTERNATIVES

A. OVERVIEW

The purpose of this section is to present a summary comparison of how well each alternative addresses the issues and concerns identified earlier in the planning process. This section focuses on the key differences between alternatives to see which alternative provides the best public benefits.

Alternatives are compared by the key elements of the issues, concerns, and opportunities, and their success at mitigating or resolving these elements. These elements are:

- . Capacity for Primitive and Semi-Primitive Recreation Opportunities
- . Parking Capacity
- . People Distribution
- . Miles of Road and Area Accessible for Management
- . Vegetative Composition
- . Bobcat and Fisher Habitat
- . Snowshoe Hare Habitat
- . Bear Habitat
- . Edge Species Habitat

B. CAPACITY FOR PRIMITIVE AND SEMI-PRIMITIVE RECREATION OPPORTUNITY

The ability of the various alternatives to provide primitive and semi-primitive recreation opportunity varies by the summer and winter seasons.

1. Summer

The current capacity, Alternative A, is very low. Alternative B increases capacity by the addition of trails and overnight facilities but still remains at the very low level of development. Alternatives C and D represent further increases in capacity through additional trails and overnight facilities. Alternative C would raise the development level to the upper end of very low while Alternative D would raise the development level to low.

2. Winter

The current capacity, Alternative A, is moderate. Alternatives B, C and D reflect increased capacity by replacing trails removed from Wilderness in the non-wilderness portion of the NRA. All alternatives reflect a moderate level of development.

Alternative A, summer and winter, addresses only the current demand. Alternatives B and C address current demand and begin to address anticipated demands. Alternative D addresses current as well as all foreseeable future demands.

C. Parking Capacity

Parking reflects the support facilities available for the various trails systems and therefore also varies by the summer and winter seasons.

1. Summer

Alternatives A-D present parking capacities to support the level of trails and overnight facilities represented in the various alternatives. All alternatives are adequate to support the level of development in that alternative.

2. Winter

All alternatives provide good access throughout the non-wilderness portion of the NRA. The current development level, 2.7 miles per 1000 acres, is very low. Current use and user contacts are very low. There is no need to expand the winter trail system at this time. Therefore, alternative A will be implemented.

D. People Distribution

The preferred alternative increases summer access to the north and northwest portions of the NRA. The alternative offers opportunities away from the Appalachian-Long Trail to address overuse and encounter problems. The alternative also offers opportunities for variable length loop trails through the area.

E. Vegetative Composition

The vegetative composition resulting from various management intensities is shown by alternative in Table C-03. Measurements are given at 100 years from implementation of the plan to represent the steady state.

Table C-03 Vegetative Composition by Alternative

Vegetative Community	Alternative A	Alternative B	Alternative C	Alternative D
Softwood and Mixed	4,227	4,271	5,331	7,222
N.Hardwood	31,308	30,552	29,225	27,165
Pioneer ^{1/}				
Paper Birch	0	0	0	0
Aspen	0	400	520	590
Oak ^{2/}	0	0	0	0
Permanent Openland	0	312	459	558
Wetlands	731	731	731	731
Open Water	134	134	134	134

^{1/} Aspen and paper birch represent communities rather than scattered trees in other vegetative communities. Both will occur as part of other forested communities.

^{2/} Oak exist in wilderness. This community would not occur over time due to successional tendencies. Oak is an early successional type.

Softwood acreages represent areas of high and moderate softwood tendency which have been converted from hardwood to mixed or softwood.

A small portion of the softwood acreage represents softwoods on high softwood tendency sites that were hardwood stands at the beginning of the 100-year planning period. About one third of the high tendency softwood sites may become softwoods from hardwoods after 100 years due to successional forces. However, they may revert in and out of hardwoods over time if left untreated to maintain softwood.

F. Bobcat and Fisher Habitat

The Habitat Suitability Index (HSI) for Bobcat for each alternative is shown in Table C-04.

The Habitat Suitability Model for bobcat as developed in Maine and adapted for Vermont was used to evaluate the Habitat Suitability Index (HSI) for bobcat for each alternative. Values are on a scale of 0 to 1 with 1 being the best.

Table C-04 Bobcat Habitat Suitability Index

	Alt. A	Alt. B	Alt. C	Alt. D
Snowshoe Hare HSI	0	.03	.08	.14
Deer HSI	.05	.50	.69	.81
Food HSI	.25	.26	.38	.48
Cover HSI	.79	.79	.81	.86
Bobcat HSI	.44	.46	.55	.64

Alternatives A and B are less than the current Habitat Suitability Index for bobcat of .52 while Alternatives C and D represent an improvement.

Values for suitability as fisher habitat should be similar as they have similar habitat needs as bobcat for cover and prey base.

G. Snowshoe Hare Habitat

Softwoods can be managed primarily for snowshoe hare to 100 years old. The portion of managed deer winter habitat that is less than 70 years old also provides snowshoe hare habitat. Softwoods older than 70 years old are too tall to provide suitable cover for snowshoe hare. Softwood cover providing snowshoe hare habitat is compared below by alternatives.

Table C-05 Softwood Cover Providing Snowshoe Hare Habitat

Alternative	Softwoods as Primary Snowshoe Hare Habitat Acres	Softwoods in Managed Deer Winter Habitat Also Providing Snowshoe Hare Habitat Acres	Total Softwoods Providing Snowshoe Hare Habitat Acres
A	0	0	0
B	0	0	0
C	1,000	623	1,623
D	2,890	864	3,754

Snowshoe hare habitat provided by each alternative can be measured against the model being developed by the Vermont Department of Fish and Wildlife. The draft model has the following recommended distribution for snowshoe hare habitat:

Habitat Model for Snowshoe Hare

Browse and Future Cover

0-9 years old 15-20%

Base Cover

Softwoods 10-29 years old 35%

Travel Cover

Softwoods 30-69 years old 35-40%

Herbaceous

10%

Table C-06 shows a comparison of snowshoe hare habitat components by alternative and the resulting habitat suitability index.

Table C-06 Snowshoe Hare Habitat Components

	Hardwood & Softwood Browse		Base Cover		Travel Cover		Herbaceous		Total Snowshoe Hare Habitat		Snowshoe Hare Habitat Suitability Index
	Acres	% of NRA	Acres	% of NRA	Acres	% of NRA	Acres	% of NRA	Acres	% of NRA	
Alt A	0	0	0	0	0	0	0	0	0	0	0
Alt B	145	.4	0	0	0	0	312	.9	457	1.3	.03
Alt C	512	1.4	463	1.3	925	2.5	459	1.3	2359	6.5	.08
Alt D	1096	3.0	1085	3.0	2166	6.0	558	1.5	4905	13.5	.14

All of the percentages are low for components of snowshoe hare habitat when compared against the model developed by the State Department of Fish and Wildlife. The highest habitat suitability index on a scale of 0 to 1 for snowshoe hare is .14 for Alternative D.

Prey base habitat is limited for snowshoe hare because the amount of accessible high and moderate softwood potential sites are limited. Alternative D represents maximizing the accessible potential snowshoe hare habitat including portions of accessible deer wintering areas which can be managed to provide both deer and snowshoe hare cover.

H. Bear Habitat

A recommendation from the Vermont Department of Fish and Wildlife to improve and maintain bear habitat is to maintain 40 to 60% of beech through mast producing age. Beech begins to produce large volumes of mast at age 40. Beech naturally occurs as a part of the northern hardwood vegetative community. Therefore, the age distribution of beech in the NRA cannot be measured as a community but can be considered as comparable to that of northern hardwoods.

Northern hardwoods represent 75% to 86% of the NRA depending on the alternative chosen. Therefore, the availability of beech is not a limiting factor for bear in any of the alternatives. At least 94% of beech would be maintained through mast producing age in all alternatives. Therefore, bear requirements for hard mast are substantially met in all alternatives.

Another requirement for bear is hardwood browse and open areas for grubbing for insects. The State Department of Fish and Wildlife recommended providing 60 acres a year, meaning 600 acres should be less than ten years old to meet this habitat requirement.

Table C-07 compares hardwood browse availability by alternative. Aspen are also considered with hardwood browse as it is suitable to meet this need.

Table C-07 Hardwood Browse Availability

Alternative	Hardwood Browse 0-9 Years Old Acres	Percent of 600 Acre Recommendation for Habitat Browse
A	0	0
B	145	24
C	230	38
D	554	92

I. Edge Species Habitat

A summary of edge species habitat by alternative is shown in Table C-08. The categories are not exclusive of each other.

Table C-08 Edge Species Habitat

Alternative	Open- land Acres	Aspen Acres	Hardwood and Aspen less than 10 yrs old Acres	Softwood less than 10 yrs old Acres	Wetlands Acres	Softwood less than 40 yrs old Acres
A	0	0	0	0	731	0
B	312	400	145	0	731	0
C	459	520	280	232	731	926
D	558	590	554	542	731	2168

IV. SELECTED MANAGEMENT ALTERNATIVE

A. OVERVIEW

Before the evaluation of alternatives was attempted, selection criteria were identified. The selection criteria were based upon the direction of Congress; issues, concerns, and opportunities identified throughout the process, and the identified management problems. The selected management alternative was determined by comparing all alternatives against the selection criteria. The selection criteria used were:

- Emphasizes more primitive and semi-primitive recreation opportunities.
- Resolves parking problems.
- Resolves people distribution problems.
- Increases amount and quality of deep woods and edge species habitat.
- Best meets public and administrative access needs.
- Meets current and anticipated demands.
- Acceptability to publics.
- Keeps management option open.

B. SELECTED MANAGEMENT ALTERNATIVE

The selected alternative combines the best attributes of Alternatives A through D.

1. Wildlife

Openings

Permanent openings would be managed as described in Alternative D. 312 acres of existing openland would be maintained. Periodic treatments every five to ten years would be used, including periodic mowing, prescribed fire, hand debrushing, crews with chain saws, and small sales to remove encroaching trees. Openings on 246 acres of existing clearcuts would be converted from seedlings and saplings to grasses, forbs and brush. Temporary openings from previous clearcuts would be allowed to become forested on 233 acres. Apple trees overtopped by trees would be released using crews with chain saws and firewood sales. Fifty-five to 110 acres of openings would be treated each year.

Aspen

Aspen would be managed for on 590 acres as described in Alternative D. Areas averaging 10 to 20 acres would be converted using small sales to increase the aspen component in stands. Most of these areas would be near roads or wetlands. Patches of 2.5 to 5 acres would be treated to provide a mosaic of sizes and ages of aspen up to 60 years old. We would treat 10 acres per year to maintain aspen.

Deer Wintering Areas

Deer wintering areas would be managed with the acreage described in Alternative D. Intensive winter surveys of deer wintering areas would be carried out to develop long-range management plans. Softwoods on 44 acres of Wallingford Pond South deer wintering area would be released mechanically using hand tools. We would manage about 1,300 acres of accessible deer winter acres to increase conifers and to provide a variety of ages and heights for cover. Methods used would include group selection, regeneration cuts, and release understory conifers. Areas of conifer saplings would be up to five acres each. We would treat 13 acres each year to maintain and increase softwoods. Deer wintering areas would be checked every three to five years to determine long-term trends.

Snowshoe Hare

Snowshoe hare habitat would be managed at a level between Alternative C and D. The major difference is that 251 acres along the Long Trail south of Little Rock Pond will not be managed because of potential impacts on the recreation users. 2,639 acres of conifers and mixed forest would be managed primarily for snowshoe hare by increasing and maintaining softwoods up to 100 years old in irregular-shaped, narrow patches up to five acres each. The long-range program would treat 27 acres each year to maintain young conifers.

Hardwood Browse

Hardwood browse will be managed at an intensity between Alternative C and D. We would provide 300 acres of hardwood browse less than ten years old in narrow, irregular-shaped patches up to five acres each. Hardwoods would be managed to reach 120 years. We would treat 30 acres each year.

Wetlands

Wetlands would be managed as described in Alternative B. Ten percent, or about 75 acres of wetlands in the non-wilderness portion of the NRA would be treated. Wetland would be burned once every five years to reduce thatch. Patches of conifers and large hardwoods, up to four acres each, would be removed along riparian areas of beaver ponds to improve food sources for beaver. Up to 25% of the edge of ponds would be treated. The long-range objective is to treat 15 acres of wetlands each year.

Research

Research will be carried out as described in Alternative D. Telemetry research would be done on bobcat, bear and fisher to determine habitat utilization and needs. Most intensive surveys would be during first decade.

2. Recreation

The summer system would be expanded to the low level of intensity as described in Alternative B. The trail system would be expanded into the north and northwest sections of the NRA. The current transportation system would be used as the base for the system expansion. The winter system would remain at its current level, Alternative A.

Summer roadside and trail overnight facilities would be expanded as described in Alternative B. Roadside facilities would include off-road parking, cleared tenting area, and native stone fireplace. Trail facilities would include native stone firering and a cleared tenting area. Solid waste would be packed out by users to a central disposal site. Toilet and water facilities would be provided only after a review of individual site proposals.

Summer parking facilities would be improved along forest roads 20 and 60. This would include spot filling and gravelling to provide off-road parking for up to five cars. Solid waste would be packed to a central disposal site by users. No toilet or water facilities would be provided.

Ten miles of non-motorized, cross country ski trail will be built from Forest Road 29 to Forest Road 20.

Winter parking would be expanded to the level of Alternative D. The parking area along Forest Road 10 in Landgrove would be expanded. Additional parking would be developed at Mt. Tabor Supply Depot, the Weston-Mt. Holly area, and the Wallingford area.

A self-service information site would be established at the Silver Bridge area along Forest Road 10. The facility would be designed to identify the area and to provide visitor information on opportunities within the area.

C. EVALUATION OF THE RECOMMENDED MANAGEMENT ALTERNATIVE

1. Capacity for Primitive and Semi-Primitive Recreation

The preferred alternative would moderately increase the summer capacity and maintain the current level of winter capacity.

As noted earlier, summer primitive and semi-primitive non-motorized use peaked in the early 1970's. A sharp decline in use was noted during the energy shortages of the mid-1970's. Use leveled out in the late 1970's and has remained constant to slightly increasing in the 1980's. This slow increase can be expected to continue. Winter semi-primitive motorized use followed a similar pattern of peaking and leveling in the 1970's. Use has remained constant to slightly decreasing in the 1980's. Resource Planning Act (RPA) and the Forest Land Management Plan have projected increased demands for primitive and semi-primitive recreation opportunities.

The preferred alternative meets current demands for primitive and semi-primitive recreation opportunities and provides for a modest increase in capacity to address anticipated future demands.

2. Parking Capacity

The preferred alternative increases the summer parking capacity to a level compatible with the level of trails and overnight facilities added. Winter parking is increased to the maximum capacity.

The preferred alternative provides year-round parking to the entire NRA. Parking is provided adjacent to the area for both motorized and non-motorized users. Parking areas are designed and located to function to serve both summer and winter system needs.

3. People Distribution

The preferred alternative increases summer access to the north and northwest portions of the NRA. The alternative offers opportunities away from the Appalachian-Long Trail to address overuse and encounter problems. The alternative also offers opportunities for variable length loop trails through the area.

4. Vegetative Composition

The following is a summary of the vegetative composition of the NRA resulting from the management intensity described in the recommended alternative.

Measurements are given at 100 years from implementation of the plan to represent the steady state.

Table C-09 Vegetative Composition

Vegetative Community	Acres	Percent of NRA
Softwood and Mixed	6,971	19.2
N. Hardwood	27,416	75.3
Pioneer		
Paper Birch	0	0
Aspen	590	2.6
Oak	0	
Permanent		
Openland	558	1.5
Wetlands	731	2.0
Open Water	134	0.4

5. Bobcat and Fisher Habitat

The bobcat Habitat Suitability Index (HSI) for the recommended alternative is as follows:

Snowshoe Hare HSI	.13
Deer HSI	.81
Food HSI	.47
Cover HSI	.85
Bobcat HSI	.63

Values for suitability for fisher habitat should be similar as they have similar habitat needs as bobcat for cover and prey base.

6. Snowshoe Hare Habitat

Softwood cover for snowshoe hare for the recommended alternative is described below.

Softwood as Primary Snowshoe Hare Habitat	Acres	2,639
Softwood in managed Deer Winter habitat also providing Hare Habitat	Acres	864
Total Softwoods providing Snowshoe Hare Habitat	Acres	3,503
	Percent of NRA	9.6%

The following is a description of snowshoe hare habitat components as described in the recommended alternative:

	Acres	Percent of NRA
Hardwood and Softwood		
Browse	989	2.7%
Base Cover	1,012	2.8%
Herbaceous	2,024	5.6%
Total Snowshoe Hare Habitat	4,583	12.5%
Snowshoe Hare Habitat Suitability Index - .13		

7. Bear Habitat

The following is a description of tracked bear habitat components for the recommended alternative:

Percent of the NRA in Northern hardwoods	75.3%
Percent of beech maintained through mast producing age	97.3%
Hardwood Browse including aspen 0-9 years old	486 Acres
Percent of 600 acres Recommendation for hardwood browse including aspen	81%

8. Edge Species Habitat

A summary of edge species habitat is given below for the recommended alternative:

Permanent Openland	558 acres
Aspen	590 acres
Temporary Opening Hardwood and aspen less than 10 years old	486 acres
Softwood less than 10 years old	506 acres
Wetlands	731 acres
Softwoods less than 40 years old	2,024 acres

V. WHITE ROCKS NATIONAL RECREATION AREA - PUBLIC INVOLVEMENT

<u>Date</u>	<u>Location</u>	<u>Group</u>
8/27/84	Montpelier	Vermont Association of Snow Travelers
9/4/84	Rutland	Bennington-Rutland-Windsor County Vast Directors
10/5/84	Rutland	Core Group
12/13/84	Rutland	Core Group
12/13/84	Montpelier	Green Mountain Club
12/13/84	Montpelier	State of Vermont
1/21/85	Rutland	Green Mountain N.F. Employees
3/21/85	Rutland	Core Group
6/3/85	Montpelier	State of Vermont and Core Group
6/25/85	Rutland	Core Group
9/10/85	Mt. Holly	Mt. Holly Selectmen
9/10/85	Weston	Weston Selectmen
9/16/85	Mt. Tabor	Mt. Tabor Selectmen
9/18/85	Peru	Peru Selectmen
9/30/85	Wallingford	Wallingford Selectmen
10/3/85	Danby	Danby Selectmen

Detailed minutes on the above noted meetings can be found at the Green Mountain National Forest, 151 West Street, Rutland, Vermont, 05701 and the Manchester Ranger Station, Routes 11 and 30, Manchester Center, Vermont, 05255.

APPENDIX D

BIBLIOGRAPHY

A. Bibliography

This report is consistent with direction in the Forest Service Manuals; the Regional Guide for the Eastern Region, September, 1983; and the Draft Forest Land Management Plan, Green Mountain National Forest 1984. Past Forest Recreation Plans have been incorporated into the latter document.

These documents are cited as references since they are the umbrella manuscripts under which this plan will function.

1. Congressional Record

Congressional Record - Senate, May 24, 1984
S6508 - S6511

Congressional Record - House, June 4, 1984
H5177 - H5180

Senate Report 98-416 April 24, 1984
"Vermont Wilderness Act of 1984"

Hearing before the Subcommittee on Soil and Water Conservation, Forestry, and Environment of the Committee on Agriculture, Nutrition, and Forestry; Ninety-Eighth Congress, Second Session on H.R. 4198 - February 1, 1984 S. HRG 98-703.

Designating certain National Forest System Lands in the State of Vermont for inclusion in the National Wilderness Preservation System and Designating a National Recreation Area. - November 10, 1983 H. REPT 98-533, part 1.

Public Law 98-322, Ninety-Eighth Congress, An Act to designate certain National Forest System lands in the State of Vermont for inclusion in the National Wilderness Preservation System and to designate a National Recreation Area.

2. Core Group

Beattie, Mollie, Commissioner of Forest, Parks and Recreation, State of Vermont.

Elton, Wallace, Vermont Audubon Council.

Garland, Larry, Chief, Habitat Division, State of Vermont Fish and Game Department.

Goff, Robert, Vermont House of Representatives.

Krassner, Lowell, Vermont Group of the Sierra Club.

McNeill, George, Vermont Federation of Sportsmen.

Monroe, Charles, Public Lands Coordinator for the Vermont Association of Snow Travelers.

Palola, Eric, Vermont National Resources Council.

Sease, Steve, Director of Planning, State of Vermont.

Shedd, Warner, Vermont Chapter of National Wildlife Federation.

Shields, Bruce, Vermont Timber Truckers Association.

Smith, Peter, Vermont Wilderness Society.

Stannard, Robert, Vermont House of Representatives.

3. White Rocks Management Team

Ackerman, Richard, Recreation Staff Officer, Green Mountain National Forest.

Denoncour, James, Forest Wildlife Biologist, Green Mountain National Forest.

Harper, Stephen, Forest Supervisor, Green Mountain National Forest.

Pramuk, Robert, Recreation Forester, Green Mountain National Forest.

Schumann, Wolfgang, District Ranger, Manchester Ranger District, Green Mountain National Forest.

Villanueva, Lydia T., District Wildlife Biologist, Manchester Ranger District, Green Mountain National Forest.

4. Personal Contacts - Forest Service

Ackerman, Richard T., Recreation Staff Officer, Green Mountain National Forest.

Ashby, Dale, Forest Engineer, Green Mountain National Forest.

Cleveland, Mark, Forest Hydrologist, Green Mountain National Forest.

Denoncour, James, Forest Wildlife Biologist, Green Mountain National Forest.

Duffy, Donna, District Soil Scientist, Manchester Ranger District, Green Mountain National Forest.

Frey, Terry, Forest Silviculturist, Green Mountain National Forest.

Gaiotti, Mary Jeanne, Forest Transportation Planner, Green Mountain National Forest.

Gaiotti, Richard, Trails Coordinator, Manchester Ranger District,
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Green, Phyllis, Recreation Assistant, Manchester Ranger District,
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Harper, Stephen, Forest Supervisor, Green Mountain National Forest.

Hoornbeek, Billee, Zone Archaeologist, Green and White Mountain
National Forests.

Harrell, Robert, Timber Management Assistant, Manchester Ranger
District, Green Mountain National Forest.

Kingsley, Wayne, Timber and Fire Forester, Green Mountain National
Forest.

Kohl, Stuart, Maintenance Engineer, Green Mountain National Forest.

Larsen, Donald, Landscape Architect, Green Mountain National
Forest.

Niewald, A. Earl, Recreation Staff Officer, White Mountain National
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Northup, James, Forest Planner, Green Mountain National Forest.

Phillips, Thomas (Nort), Dispersed Recreation Technician,
Manchester Ranger District, Green Mountain National Forest.

Pinto, Carlos, Timber, Wildlife and Watershed Staff Officer, Green
Mountain National Forest.

Putnam, Fred, Forest Soil Scientist, Green Mountain National
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Redd, John, Recreation Assistant, Manchester Ranger District, Green
Mountain National Forest.

Sober, Toivo, Recreation Forester, Superior National Forest.

Trochlil, Richard, Recreation Staff Officer, Monongahela National
Forest.

Villanueva, Lydia T., District Wildlife Biologist, Manchester
Ranger District, Green Mountain National Forest.

Yost, Gaylord, Wilderness and Dispersed Area Management, Regional
Office, Milwaukee, Wisconsin.

5. Personal Contacts - State of Vermont

Archambault, Stuart, Game Warden, State of Vermont Fish and Game
Department.

Collum, Dave, Fisheries Biologist, State of Vermont Fish and Game Department.

Day, Benjamin, Director of Game, State of Vermont Fish and Game Department.

DiStefano, James, Furbear Project Leader, State of Vermont Fish and Game Department.

Garland, Larry, Chief, Habitat Division, State of Vermont Fish and Game Department.

Gallus, Donald, Game Warden, State of Vermont Fish and Game Department.

Laferrier, Leo, Commissioner of Forests, Parks and Recreation, State of Vermont.

Plumb, George, Director of Recreation, Department of Forests, Parks, and Recreation, State of Vermont.

Royer, Kim, Small Game Habitat Biologist, State of Vermont Fish and Game Department.

Sease, Steve, Director of Planning, State of Vermont.

Wiley, Charles, Bear Project Leader, State of Vermont Fish and Game Department.

6. Other Personal Contacts

Alaben, Stanton, President, Vermont Ski Touring Operators Association.

Auger, Ray, Southern Supervisor, Green Mountain Club.

Bronson, Randy, Vermont Association of All-Terrain Vehicle Enthusiasts.

Bristow, Preston, President, Green Mountain Club.

Bushee, Steve, Catamount Trail Association.

Duso, Carmin, President, Vermont Association of Snow Travelers.

Francis, Mike, Staff Member for United States Senator, Robert T. Stafford.

Edward Griffith, local trapper.

Monroe, Charles, Public Lands Coordinator, Vermont Association of Snow Travelers.

Paquin, Robert, Staff Member for United States Senator, Patrick J. Leahy.

Peet, Harry, Executive Director, Green Mountain Club.

Powdin, Mark, Staff Member for Member of Congress James M. Jeffords.

Smith, Peter, Vermont Wilderness Society.

Sternberg, Roger, Appalachian Trail Conference.

Wood, Victor, Trail Coordinator, Vermont Association of Snow Travelers.

7. Publications - Forest Service

United States Department of Agriculture Forest Service. Arterial and Collector Roads on the Green Mountain National Forest. 1984.

United States Department of Agriculture Forest Service. Complex Information Reports 1970-1985. Unpublished data Green Mountain National Forest.

United States Department of Agriculture Forest Service. The Diversity of Plant and Animal Communities on the Green Mountain National Forest. 1983.

United States Department of Agriculture Forest Service. Ecological Land Typing (ELT) of the Manchester Ranger District. Unpublished data.

United States Department of Agriculture Forest Service. Fire, Administration and other Sites on the Green Mountain National Forest.

United States Department of Agriculture Forest Service. Forest Service Manual, Chs. 2300-2380.

United States Department of Agriculture Forest Service. Location Criteria for Facilities Having High Visual Intensity on the Green Mountain National Forest. 1983.

United States Department of Agriculture Forest Service. 1986-1990 Management Information Handbook. Forest Service Handbook 1309.11a. 1982.

United States Department of Agriculture Forest Service. Minimum Viable Populations of Selected Species on the Green Mountain National Forest. 1984.

United States Department of Agriculture Forest Service. National Forest Landscape Management. Vol. 2, Ch. 1, The Visual Management System. United States Department of Agriculture Handbook Number 462. 1974.

United States Department of Agriculture Forest Service. Providing Old Growth Communities and Overmature Forest Stands on the Green Mountain National Forest.

United States Department of Agriculture Forest Service. Recreation Information Management Reports. 1966-1985. Unpublished Data. Green Mountain National Forest, Rutland, Vermont.

United States Department of Agriculture Forest Service. Recreation Input to Land and Resource Management Planning. Forest Service Handbook 1909.12, Ch. 500. 1982.

United States Department of Agriculture Forest Service. Recreation Management Plan. Green Mountain National Forest, Rutland, Vermont. 1978.

United States Department of Agriculture, Forest Service. Recreation-Visual Resource on the Green Mountain National Forest. 1983.

United States Department of Agriculture Forest Service. Roadless Area Review and Evaluation. Published and unpublished data. 1979.

United States Department of Agriculture Forest Service. ROS Users Guide. 1982.

United States Department of Agriculture Forest Service. Soil, Water and Air Monitoring on the Green Mountain National Forest. 1983.

United States Department of Agriculture Forest Service. Vegetative Composition Objectives for the Green Mountain National Forest. 1983.

United States Department of Agriculture Forest Service. Wildlife Resource on the Green Mountain National Forest. 1984.

8. Publications - Others

Ackerman, Richard T., "Policy and Procedure Directions for Green Mountain National Forest Recreation Management". Rutland, Vermont. Recreation Short Course Report, United States Department of Agriculture Forest Service, 1985.

Alexander, C. Vermont Black Bear Habitat Management Guidelines DRAFT. Vermont Department of Fish and Wildlife, Montpelier, Vermont, 1985.

Bacon, Warren, talk at Clemson University Recreation Short Course, Clemson, South Carolina, September, 1984.

Berendzen, S.L. Ecology and Status of the Bobcat in Western Massachusetts. Proceedings of the Eastern Bobcat Workshop. University of Maine, Orono, 1984.

Brocke, R.H. Preliminary Guidelines for Managing Snowshoe Hare Habitat in the Adirondacks. Trans. Northeast Sec. Wildlife Society, Fish and Wildlife Conference 32:46-66.

Chapman, J.A. and G.A. Feldhamer. Wild Mammals of North America - Biology, Management and Economics. The John Hopkins University Press, Baltimore, Maryland. 1982.

Diamond, Henry L., et al, "Outdoor Recreation for America-1983", Resources for the Future, Washington, DC, February 3, 1983.

Devlin, Sherry, "Forest Chief: Adhere to Wilderness Act", Spokane, Washington, The Spokesman Review, Page 17, October 14, 1983.

Douglas, John, "History of the Green Mountain National Forest", Rutland, Vermont, United States Department of Agriculture, Forest Service, 1980.

Fox, L.B. and R.H. Brocke. Ecology and Demography of the Bobcat in New York. Proceedings of Eastern Bobcat Workshop, University of Maine, Orono, 1984.

Halpin, L., The Status and Management of the Bobcat (*Lynx rufus*) in Vermont, Unpublished, 1979.

Hof, John G. and H. Fred Kaiser, "Projections of Future Forest Recreation Use", Resource Bulletin WO-2, Washington, DC, U.S. Department of Agriculture, Forest Service, 1983.

Kelly, G.M. Fisher (*Martes pennanti*) Biology in the White Mountain National Forest and Adjacent Areas. PhD thesis, University of Massachusetts, Amherst, Massachusetts, 1977.

Lindsay, John J., "The Quality and Use of Vermont's Hiking Trail System", Burlington, Vermont. University of Vermont Recreation Management Program, School of Natural Resources, Research Report, SNR-RM9, February, 1983.

Major, J.T. and J.H. Hunt. Bobcat Suitability Index Model. Maine Department of Inland Fisheries and Wildlife, Augusta, Maine, 1984.

McCord, C.M., Selection of Winter Habitat by Bobcats (*Lynx rufus*) on the Quabbin Reservation, Massachusetts. Journal of Mammalogy, 1979, Vol. 55, pg. 428-437.

Peterson, Max R., Address to Wilderness Workshop, University of Idaho, Moscow, Idaho, October, 1983.

Powell, Roger A., The Fisher-Life History, Ecology, and Behavior, University of Minnesota Press, Minneapolis, Minnesota, 1982. 217pp.

Royar, K. Snowshoe Hare (*Lepus americanus*) Biology and Management in Vermont DRAFT, Vermont Department of Fish and Wildlife, Montpelier, Vermont, 1985.

Schreyer, Richard, Talks at Clemson University Recreation Short Course, Clemson, South Carolina, September, 1984.

Schumann, Wolfgang F., "An Evaluation of Outdoor Recreation Management on the Green Mountain National Forest", Manchester, Vermont. Recreation Short Course Report, United States Department of Agriculture, Forest Service, 1982.

Stankey, George H., et al, "The Limits of Acceptable Change (LAC) System for Wilderness Planning", General Technical Report INT-176, January, 1985.

Thomas, Jack Ward, et al, "Wildlife Habitats in Managed Forests the Blue Ridge Mountains of Oregon and Washington", Agriculture Handbook No. 553, September, 1979.

United States Department of Agriculture, Forest Service, National (Recreation) Goal Statement, Draft Environmental Impact Statement, Resources Planning Act, 1985.

Vermont State Comprehensive Outdoor Recreation Plan, 1983-1988, Montpelier, Vermont, Agency of Environmental Conservation, 1983.

Wiley, C.H. The Vermont Black Bear. Vermont Department of Fish and Wildlife. Montpelier, Vermont 74pp. 1980.

APPENDIX E
RESPONSE TO PUBLIC COMMENT

A review draft of the White Rocks National Recreation Area Management Objectives and Direction was sent out for public comment during the period September 4 through November 1, 1985. Several interested parties commented on the draft plan. A summary of the comments is listed below.

COMMENT

.Public Parking

A comment was raised that there are no parking facilities provided for winter users of Forest Road 21. The lack of parking is impacting the town and local citizens.

We have added a winter parking area for Forest Road 21 to our planned list of projects 1987-1992. The Manchester District Ranger will meet with the Peru Board of Selectmen to work out details.

.Trails - Summer

A comment on the need for more pedestrian trails especially those creating opportunities for loop trails was raised.

There currently are 30 miles of pedestrian trails being maintained in the NRA. The plan calls for 12.5 miles of pedestrian trails to be built in the next 5 year period. All trails are planned to form loop trail opportunities varying from several hours to several days. If demand warrants, more loop trails can be developed utilizing existing old woods roads and the winter trail system.

.Trails - Winter

Some people commented on the need to add short loops to the planned cross-country ski trail.

The cross-country ski trail project is only shown schematically. When final project planning is done, we will work with local user groups to identify the exact location. Loop trail opportunities will be explored at that time.

A comment was received that the 15 miles of snowmobile trails removed from Wilderness should be held in reserve for future demand in the non-Wilderness portion of the NRA.

The legislative history of Public Law 98-322 identifies the intent to keep the current level of snowmobile trails. We have added a statement in the action plan that clarifies the fact that the 14½ miles of snowmobile trail are held in reserve and can be replaced in the non-wilderness portion of the NRA when demand warrants such.

.Openings Maintenance

Some people asked how the existing openings along Forest Road 60 and in the interior of the NRA will be maintained.

The Standards and Guidelines call for openings to be maintained on a 5 to 10 year basis by mowing, prescribed fire, hand debrising, or crews with chainsaws. It is our intent to maintain existing openings through prescribed fire. Only if prescribed fire does not prove successful will we consider mowing or debrising methods.

.Wildlife

Some people asked that we study the feasibility of stocking the pine marten in the NRA.

As a part of the Wildlife research program, we have identified the pine marten reintroduction as a topic to be studied. We intend to conduct research in cooperation with the University of Vermont and Vermont Fish and Wildlife Department.

Some people commented we need more detail on the nature of Wildlife research. They said we needed to strengthen research on wildlife habitat and monitoring Wildlife populations.

We have identified the need to obtain basic research data on home range, food habitats, reaction to disturbance, and habitat utilization for deep woods and edge species. The research program is currently being finalized. To date, we have identified a bobcat research project with the State of Vermont and a pine marten reintroduction feasibility study with the University of Vermont.

.Roads

A person asked if all closed roads will be kept passible for management use.

The Congressional Report language states that roads will be allowed to revegetate although they may be used for management use. It is our intent to allow roads to revegetate except those few roads that are needed for frequent activities such as prescribed burning. Other roads would be opened on an as-needed basis. Many of the old road beds form the base of the summer and winter trail system. These roads will be maintained to a level to allow trail use.

.Vegetative Management

A comment was made on the need to expand the timber Standards and Guidelines by citing timber removal methods that will be encouraged or discouraged.

Our intention is to eliminate the use of large wheeled skidders in the NRA. We have added size limitations to the timber standards and guidelines to achieve this. The real question becomes one of adequate safeguards to prevent environmental damage. The Standards and Guidelines in the Forest Plan also apply to activities in the NRA. So timber, soil and water Standards and Guidelines will be applies. We will be

using seasonal restrictions, timber sale contract restrictions, and stringent timber sale administration to see that the desired environmental results are achieved.

.One person expressed concern over the amount of vegetative management east of Wallingford Pond, on Willard Mountain and near Greendale Campground.

The vegetative management program was developed in cooperation with the State of Vermont to provide needed habitat components for deep woods and edge species. The areas noted are for the most part either existing openings or openings created by recent timber sale activity. Openings will be treated with prescribed fire to provide grass, weed and shrub habitat for edge species. As noted in the action plan, the annual vegetative management program calls for 110 acres of prescribed burning of openings, 10 acres of aspen cuts, 40 acres of softwood regeneration, and 30 acres of hardwood regeneration. We feel the amount and location of management activities adheres to the intent expressed in Public Law 98-322 and the Congressional Report language.